



COMMUNITY-BASED ADAPTATION IN PRACTICE:

A global overview of CARE International's practice of Community-Based Adaptation (CBA) to climate change





Funded by:



Cover photo: A woman and her daughter plant trees as part of a land restoration project in Shullcas, Peru.

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For further information on any of the projects described in this paper, or if you would like to contribute to, or support CARE's work on CBA, please visit: www.careclimatechange.org or email info@careclimatechange.org.

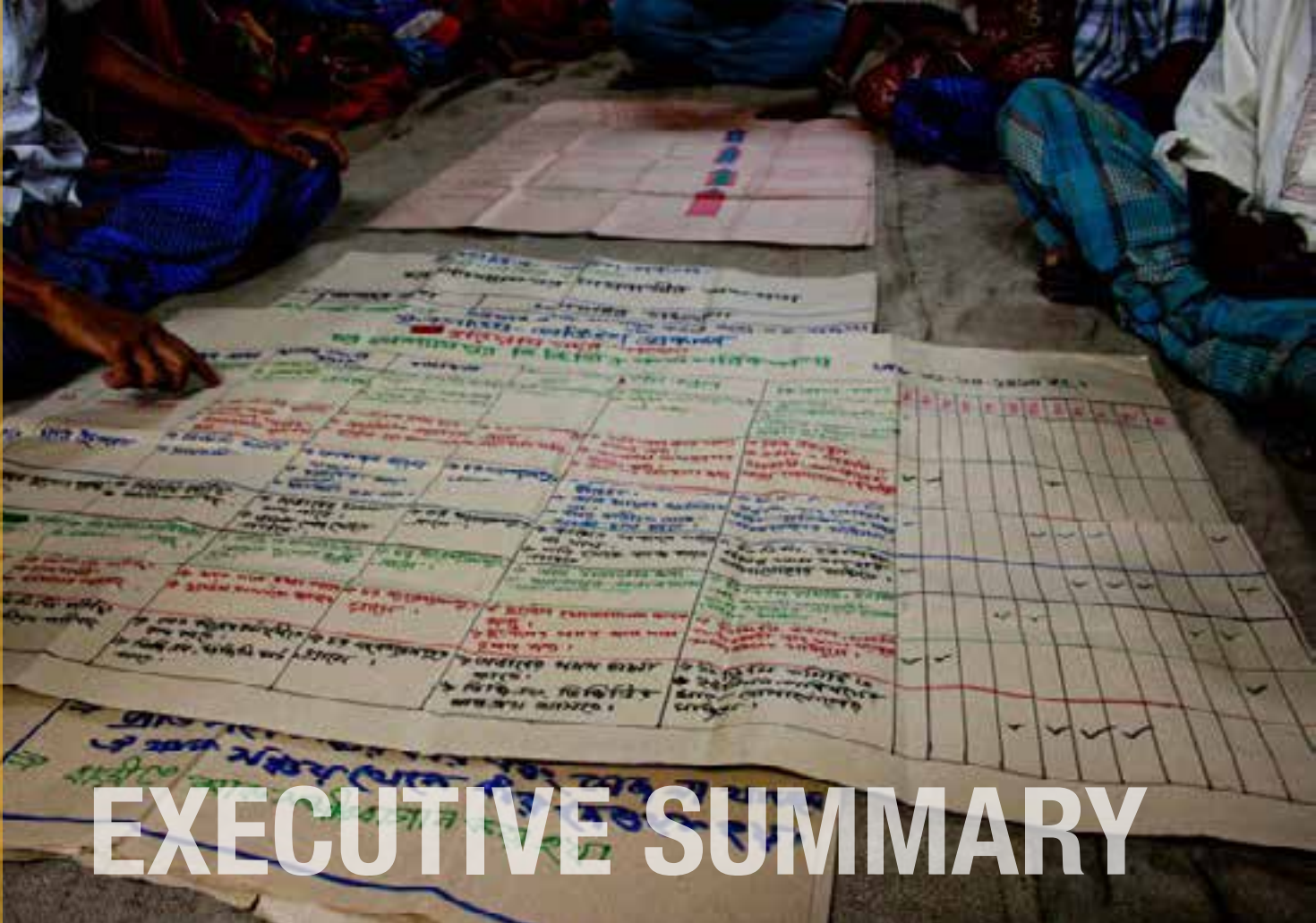
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Mapping out a community action plan for climate change in Charchonoshyampur, North Western Bangladesh. These plans are then integrated into formal planning processes at the district level. © Agnes Otzelberger / CARE

The purpose of this paper is to document CARE's current practice of Community-Based Adaptation (CBA) to climate change and how, increasingly, elements of the approach are evolving and being integrated into other development sectors. This synthesis of CBA project examples informs an ongoing process to update our various tools and approaches to CBA for practitioner use in the near future.

CARE promotes Community-Based Adaptation to climate change because we believe it to be a highly effective approach for the following reasons:

- Generating adaptation strategies with communities and other local stakeholders improves the uptake and sustainability of the process because communities develop a strong sense of ownership and their priorities are met.
- Enhancing communities' awareness and understanding of climate change and uncertainty enables them to create responsive plans and make more flexible and context-appropriate decisions.
- Embedding new knowledge and understanding into existing community structures expands and strengthens those structures as well as institutional mechanisms.

The development of CARE's approach to CBA

CARE's *Community-Based Adaptation (CBA) framework* (see Appendix) was first presented in 2009. The framework describes a range of *enabling factors* (climate-resilient livelihoods, disaster risk reduction (DRR), local adaptive and organisational capacity development, an enabling national policy environment, a good knowledge of climate change, and the addressing of underlying causes of vulnerability) that need to be in place for effective community-based adaptation to occur.

These enabling factors are achieved through the use of four interrelated strategies:

- promotion of climate-resilient livelihoods strategies
- disaster risk reduction strategies to reduce the impact of hazards on vulnerable households
- capacity development for local civil society and government institutions
- advocacy and social mobilisation to address the underlying causes of vulnerability.

In the past few years, CARE has further developed its CBA approach through the production of several well-regarded practitioners' tools and resources, most notably the following:

- (2009) *Climate Vulnerability and Capacity Assessment (CVCA) handbook* – an extremely popular participatory vulnerability analysis tool
- (2011) Two digital toolkits, one to support the design and implementation of *Community Based Adaptation (CBA) projects*, the other to support the process of *integrating climate change adaptation into development projects* – both toolkits offer a practical 'how to' guide based on the project cycle
- (2011) *The Visioning Approach: in Community Watershed Management Planning* – a participatory approach used beyond watershed management projects to encourage community engagement and commitment to adaptation activities
- (2012) *Participatory Monitoring, Evaluation, Reflection & Learning (PMERL) for Community-Based Adaptation Manual* – a guide to integrating the monitoring and evaluation of adaptive capacity into community-based processes
- (2012) *Decision-making for climate resilient livelihoods and risk reduction: A Participatory Scenario Planning (PSP) approach* – a brief about PSP as a mechanism for participatory sharing and interpretation of climate forecasts

Gender equality and women's empowerment

Integrating gender equality and women's empowerment approaches into our climate change programmes can help to ensure that adaptation outcomes are effective and sustainable. It also helps to ensure that project activities do not exacerbate other inequalities and vulnerabilities, and that they fulfil the specific needs of the most vulnerable groups. Our CBA approach promotes the equal participation of men and women in the decision-making and implementation phases of activities, and ideally aims to create lasting *transformative* change in gender relations as part of building the adaptive capacity of the whole community.

Global and regional learning

The main body of this paper highlights some of CARE's CBA projects and programmes currently being implemented through and with our partners, globally, and across Africa, Asia and the Pacific, and in Latin America and the Caribbean.

Section 3 looks at what CARE has learned about the bigger picture of CBA in practice, through global and regional (multi-country), or multi-NGO, learning programmes:

- An economic rationale for CBA- research findings show that CBA activities can result in a significant rate of return on investment.
- CBA, food security, and migration - revealing the linkages between rainfall, food availability, and the use of migration as an adaptation strategy.
- Joint principles for adaptation – a tool that can link CBA activities and understanding to national-level advocacy.
- Working in an NGO consortium- consolidating experience, approaches and project reach in climate change adaptation work in Vanuatu.



A woman using a step-pump to irrigate a field in Hasia Fokirpara village, North Western Bangladesh. © Agnes Otzelberger / CARE

Sections 4, 5 and 6 present 12 regional case studies reflecting the four main strategies of CARE's *CBA framework* (see Appendix), and the processes through which practitioners and communities made decisions about how to build their adaptive capacity through project activities, as informed by climate information, risk and vulnerability analysis:

Africa

- Farmer field schools in Mozambique
- Community adaptation action planning in Niger
- Participatory scenario planning in Kenya
- CBA and resilience building in Ethiopia

Asia and the Pacific

- Protecting coastal livelihoods in Thailand
- CBA and disaster risk reduction in Bangladesh
- From slave to community leader in Nepal
- A methodology for CBA planning in Vietnam

Latin America and the Caribbean

- Protecting high mountain wetlands in Ecuador
- Sustainable livestock production in Cuba
- Using traditional knowledge in Nicaragua
- Preparing for glacial lake outbursts in Peru

Good practice in CBA

The case studies demonstrate that there is no single model of good practice for CBA projects. The climatic, environmental, social, economic, and political context surrounding a community determines the design, implementation and possible outcomes of CBA processes and activities.

However, looking across the examples shared in this paper, and our programme portfolio as a whole, five key lessons about what works well in practice, across many different contexts, have emerged;

1. Adaptive capacity

Delivering on all four strategies of the CBA Framework (promotion of climate-resilient livelihoods; disaster risk reduction; local capacity development; advocacy and social mobilisation) at all levels, is crucial for building adaptive capacity effectively and sustainably.

Adding the overarching components of ‘climate information’ and ‘managing risk and uncertainty’ helps to focus community/project decision-making around preparing for, and managing, future climate change risks, despite their uncertain nature.

2. Equitable approaches

Participatory and rights-based approaches can help to ensure that adaptation outcomes are effective and sustainable. They also help to ensure that project activities do not exacerbate existing inequalities and vulnerabilities, and that they fulfil the needs of the most vulnerable groups.

3. Working with partners

External partners working with a community, for example providing resources and knowledge, are often a key factor in the success of a CBA project.

Working with existing civil society networks and platforms can facilitate the local to national-level advocacy requirements of CBA projects (usually around adaptation planning, financing, or context-specific topics, such as land rights for women or other marginalised groups).

4. Integration with formal planning processes

CBA is not something that communities do alone – it is a multi-level approach to adaptation that puts vulnerable people and their priorities first, although action is required at all levels (household, community, local and national). Communities can then integrate their context-specific adaptation plans into more formal government plans and processes.

5. Building local capacity

The development, application and sharing of effective participatory tools and approaches in CBA can help to build the capacity of local actors and promote the continuation of adaptation activities and processes after the lifetime of the project.

Section 7.1 consolidates these good practice lessons in a summary table and draws out some implications for practitioners.

Refining CARE's CBA approach

Our experiences in CBA have also revealed some issues that are missing from, or need to be better integrated into, CARE's existing set of tools and resources. Section 7.2 identifies the main issues, as well as outlining CARE's next steps in addressing them;

Gender equality and women's empowerment

Although it is relatively easy to engage women, in terms of CBA project participation, it is much more difficult to effect long-term and structural change in gender relations, and in women's empowerment outcomes at household, community or national levels.

Climate information

While much progress has been made on integrating climate information into decision-making, many challenges remain in terms of the access to, and usability of, such information for the poorest or most vulnerable groups, as well as around effective communication and the dissemination of information.

Ecosystem approaches

Rural communities directly depend upon natural resources and on the products and services provided by healthy ecosystems. However, the focus of CARE's existing adaptation tools and approaches is primarily around socio-economic analysis, with an assumption that natural resources will be adequately considered as part of this process.

Financing CBA

The processes of building adaptive capacity and adaptation planning can be expensive. They require consistent government/partner support and necessarily need to effectively involve vulnerable and marginalised groups, which adds additional costs and challenges.

CBA as a process

Since building adaptive capacity is a continuous process of understanding, planning for and responding to an uncertain changing climate, we need to better reflect this in CARE's tools and resources.

Integration into general development practice

Practitioners have mentioned that climate change adaptation is often misunderstood as "yet another development sector", and not seen as a critical risk affecting all development work.

Glossary

Adaptive capacity	The ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.
Climate change	A change of climate that is attributed directly or indirectly to human activity which alters the composition of the global atmosphere and which is, in addition to natural climate variability, observed over comparable time periods. See also <i>climate variability</i> .
Climate change adaptation (CCA)	Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
Climate-resilient	The ability of a social or ecological system to absorb climatic disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change.
Climate variability	Climate variability refers to variations in the mean state and other statistics (such as standard deviations, statistics of extremes, etc.) of the climate on all temporal and spatial scales beyond that of individual weather events.
Community-Based Adaptation (CBA)	<i>Climate change adaptation</i> activities developed in partnership with at-risk communities, in order to promote local awareness of, and appropriate and sustainable solutions to, current and future climatic conditions.
Disaster risk reduction (DRR)	The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to <i>hazards</i> , lessened <i>vulnerability</i> of people and property, wise management of land, water and the environment, and improved preparedness for adverse events.
Ecosystem	A system of living organisms interacting with each other and their physical environment. The boundaries of what could be called an ecosystem are somewhat arbitrary, depending on the focus of interest or study. Thus, the extent of an ecosystem may range from very small spatial scales to, ultimately, the entire Earth.
Food security/ Food and nutrition security	A situation that exists when people have secure access to sufficient amounts of safe and nutritious food for normal growth, development and an active and healthy life. Food insecurity may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, or inadequate use of food at household level.
Gender equality	The equal enjoyment by women, girls, boys and men of rights, opportunities, resources and rewards. Equality does not mean that women and men are the same but that their enjoyment of rights, opportunities and life chances are not governed or limited by whether they were born male or female.
Gender transformative	Projects that seek to transform gender relations to promote equity as a human right, as well as a means to reach sustainable development outcomes.

Hazard	A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods or services, social or economic disruption, or environmental damage.
Intergovernmental Panel on Climate Change (IPCC)	The Intergovernmental Panel on Climate Change (IPCC) is the leading international body for the assessment of climate change. It was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) to provide the world with a clear scientific view on the current state of knowledge on climate change and its potential environmental and socio-economic impacts.
Loss and damage	‘Damage’ refers to the negative impacts of climate change that can be repaired or restored (such as damage to a coastal mangrove forest from coastal surges). While, ‘loss’ refers to negative impacts that cannot be repaired or restored (such as loss of geologic freshwater sources related to glacial melt or desertification).
Mitigation	An intervention by human society to reduce the man-made impact on the climate system; it includes strategies to reduce greenhouse gas sources and emissions.
Participatory approach	Working with and through relevant local groups in the design and implementation of a development project to improve the project’s sustainability, relevance and outcomes.
Rights-based organisation/ approach	A rights-based approach uses human rights as a framework to guide the development process. It starts from the assumption that people have a human right to achieve economic, social and cultural development.
Risk	The result of the interaction of physically defined <i>hazards</i> with the properties of the exposed systems – i.e. their sensitivity or (social) vulnerability. Risk can also be considered as the combination of an event, its likelihood and its consequences – i.e. risk equals the probability of climate <i>hazard</i> multiplied by a given system’s <i>vulnerability</i> .
Vulnerability	Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including <i>climate variability</i> and extremes. Vulnerability is a function of the character, magnitude and rate of climate change and variation to which a system is exposed, and its <i>adaptive capacity</i> .
Women’s empowerment	The sum total of changes needed for a woman to realise her full human rights – the interplay of changes in the following areas of power: agency (her own aspirations and capabilities); structure (the environment that surrounds and conditions her choices); and relations (the power relations through which she negotiates her life choices).



1. INTRODUCTION

CARE staff facilitating a Climate Vulnerability Capacity Analysis (CVCA) community meeting in Masvingo, Zimbabwe. © Agnes Otzelberger / CARE

The purpose of this paper is to document CARE’s current practice of Community-Based Adaptation (CBA) and how, increasingly, elements of the approach are evolving and being integrated into other development sectors. This synthesis of CBA project examples will inform an ongoing process to update our various tools and approaches to CBA, for CARE and others’ use in the near future.

The main body of this paper highlights some of CARE’s CBA projects and programmes currently being implemented through and with our partners, globally, and across Africa, Asia and the Pacific, and in Latin America and the Caribbean.

Sections 4, 5 and 6 present 12 regional case studies reflecting the four main strategies of CARE’s *CBA framework* (see box below), and the processes through which practitioners and communities make decisions about how to build their adaptive capacity through project activities, as informed by climate information, risk and vulnerability analysis.

BOX 1:

Four main strategies of CARE’s CBA framework:

1. Promotion of climate-resilient livelihoods strategies
2. Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households
3. Capacity development for local civil society and government institutions
4. Advocacy and social mobilisation to address the underlying causes of vulnerability.

1.1 CARE and climate change

The latest United Nations *Intergovernmental Panel on Climate Change (IPCC) report* confirms that, as a result of human-induced climate change, global temperatures are rising, sea-level rise is accelerating, oceans are warming and acidifying, glaciers and Arctic Sea ice are in decline, and rainfall patterns are changing. These changes are already disrupting global weather patterns, resulting in more intense, more frequent, less predictable and longer-lasting floods, cyclones and droughts.

Everybody is affected by climate change, either directly or indirectly, since its impacts are already influencing global food and trade systems, pushing up prices, damaging economies and market infrastructure, and worsening conflict over natural resources. However, it is the world's poorest people, who have done the least to produce the greenhouse gas emissions that cause climate change, who are more directly and severely affected by unpredictable and extreme weather events, as well as by the gradual climate changes that can also destroy livelihoods and aggravate financial, political, social and environmental inequalities.

As such, climate change is arguably the greatest-ever threat to CARE's mission. It radically affects our core activities across the development to humanitarian relief spectrum – with implications for food security, health, access to water, gender relations and inequalities, conflict, disaster risk reduction and livelihoods programming.

1.2 CARE and adaptation

Global action on climate change can be divided into three overlapping areas: *mitigation* – to try to reduce the volume of greenhouse gases in the atmosphere; *adaptation* – to help people adapt to the impacts of climate change on their livelihoods and ecosystems; and, in situations so severe that adaptation is no longer possible, a new area of work known as *loss and damage* – to address the loss of and damage to assets and ecosystems, associated with the adverse effects of climate change. These three areas relate to each other: if mitigation is insufficient, adaptation becomes necessary; and if adaptation is inadequate, or under-funded, then loss and damage will continue to impact vulnerable communities, further eroding their development gains.

Most of CARE's climate change programme practice is around *adaptation* – building the *adaptive capacity* of individuals and communities in order to reduce their vulnerability to the impacts of climate change. For the past four years (since 2010), CARE's programme work in climate change adaptation has significantly increased, in terms of both geographical scope and programme size. In 2013, CARE was implementing over 70 climate change projects across 30 countries. In addition to these national-level projects, we are working on several regional and global (multi-region) learning projects. These projects aim to increase the impact of, and promote good practice in, climate change adaptation within the international development sector.

CARE promotes Community-Based Adaptation to climate change, in particular, because we believe it to be a highly effective approach, for the following reasons:

- Generating adaptation strategies with communities and other local stakeholders improves the uptake and sustainability of the process because communities develop a strong sense of ownership and their priorities are met.
- Enhancing communities' awareness and understanding of climate change and uncertainty enables them to create responsive plans and make more flexible and context-appropriate decisions.
- Embedding new knowledge and understanding into existing community structures expands and strengthens those structures as well as institutional mechanisms.



2. CARE AND COMMUNITY-BASED ADAPTATION (CBA)

A group of women from Batallas, Bolivia, identify and map out hazards in their village during a CARE-led Climate Vulnerability Capacity Analysis (CVCA) workshop.
© Belen Cordovez / CARE

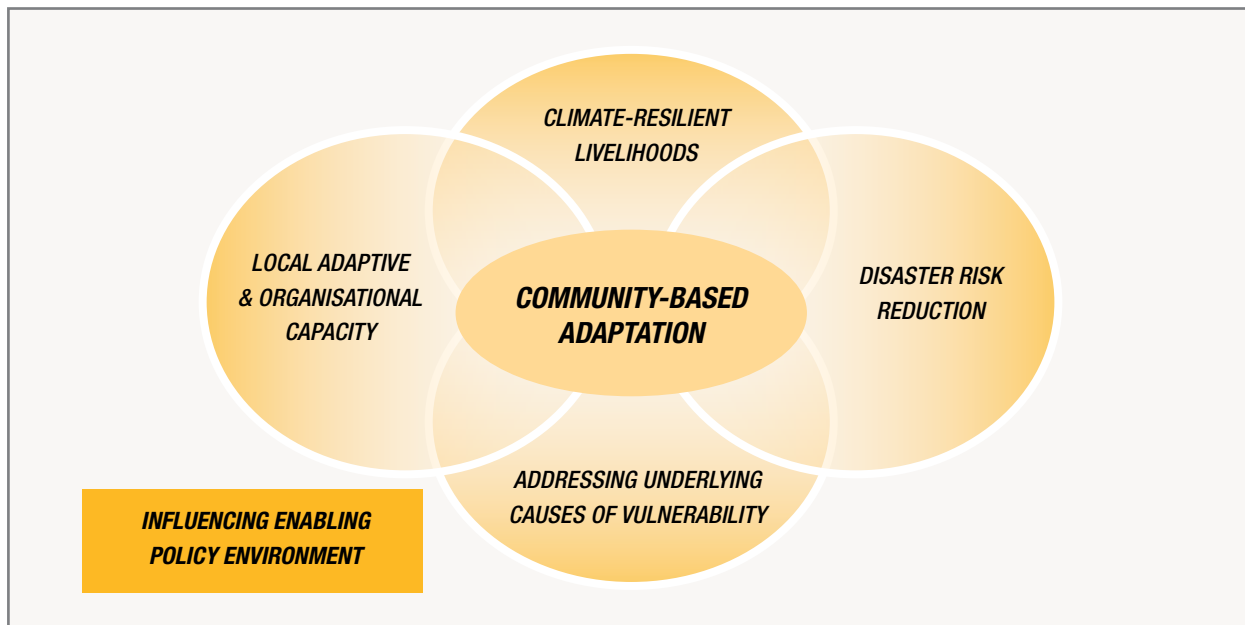
This section outlines historical developments in CARE's approach to CBA, providing further context to the practical and conceptual foundations of the project examples.

2.1 The development of CARE's approach to CBA

CARE's approach to integrating climate change into development work has grown from the bottom up. Field-level practitioners were the first to articulate the problem, as they witnessed and struggled to contend with the impacts of climate change in vulnerable communities. In response, CARE has developed a series of climate change strategies and tools, based on what practitioners have experienced and learned over the past few years. The most notable of these resources are described below to show how our approach has developed through time. (A list of these publications is provided in the executive summary.)

1. CARE's **Community-Based Adaptation (CBA) framework** (see Appendix) was first presented in 2009. The framework describes a range of *enabling factors* (climate-resilient livelihoods, disaster risk reduction (DRR), local adaptive and organisational capacity development, an enabling national policy environment, a good knowledge of climate change, and the addressing of underlying causes of vulnerability) that need to be in place for effective community-based adaptation to occur. These enabling factors are achieved through the use of four interrelated strategies:
 - promotion of climate-resilient livelihoods strategies
 - disaster risk reduction strategies to reduce the impact of hazards on vulnerable households
 - capacity development for local civil society and government institutions
 - advocacy and social mobilisation to address the underlying causes of vulnerability.

Figure 1: The original 2009 CARE CBA 'flower' diagram

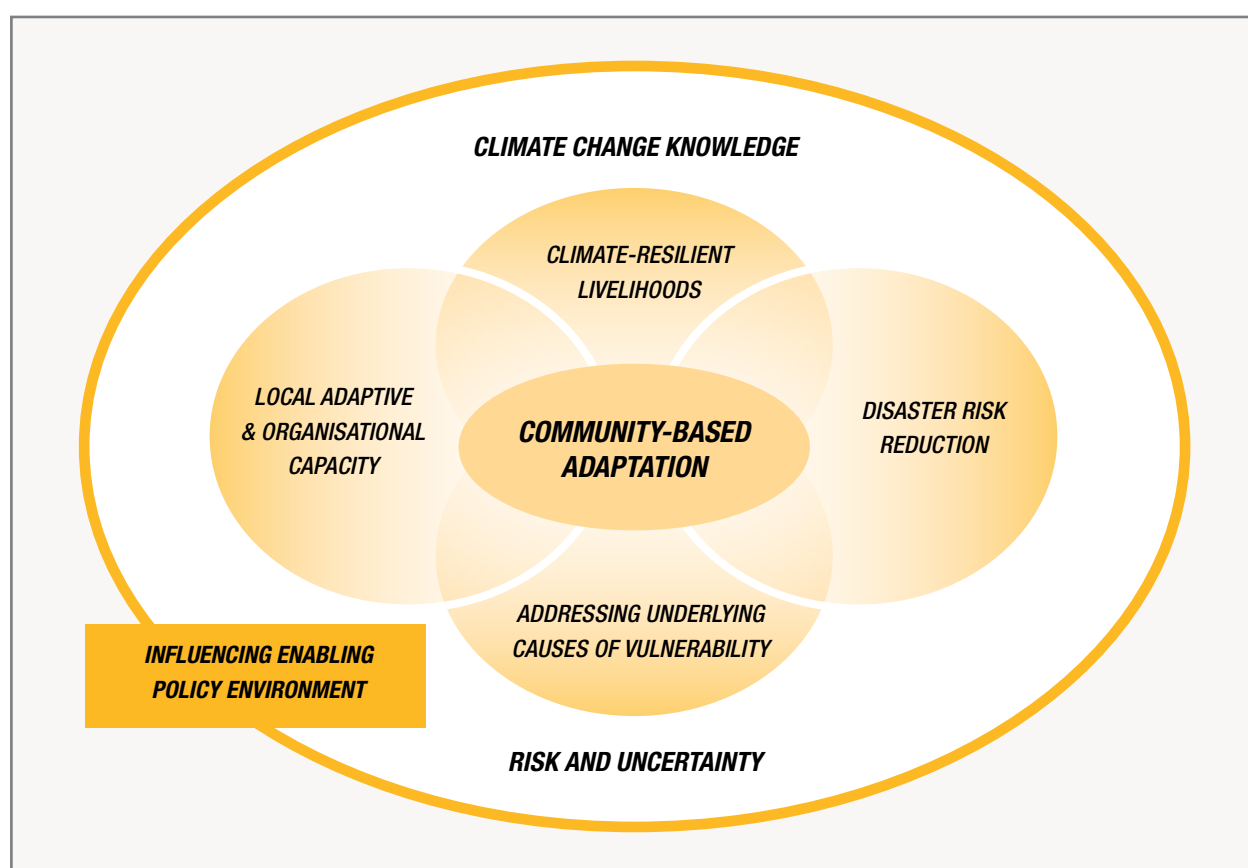


Although community-based interventions are necessarily situated at local level, it is crucial to recognise that CBA also demands and promotes action at all other levels to achieve systemic and long-term change. CARE's CBA framework provides a holistic analytical approach for communities to plan adaptation actions that are informed by climate science as well as by local observations of climate change. It builds the capacities of local civil society and government institutions to better support communities' adaptation efforts. It also addresses underlying causes of vulnerability, such as poor governance, gender-based inequality over resource use, or access to basic services, by influencing the policy and enabling environment.

2. The *Climate Vulnerability and Capacity Analysis (CVCA) Handbook* (2009) was, and continues to be, an extremely popular practitioner tool. The approach provides insights into the complex array of climatic, environmental, social, economic and political factors that determine people's vulnerability to climate change. This information then enables the community, project staff, partners and policy makers to target resources and interventions where they are needed most.
3. CARE published its *CBA Project Toolkit* in 2011. This is a step-by-step guide to designing, implementing and monitoring CBA projects. It includes a set of *project standards* and proposed *milestones and indicators* to help practitioners plan activities and track the progress made in building adaptive capacity. These resources reflect the fact that adaptation is a *dynamic* process that involves mapping the assets and conditions that must be in place for communities to manage current climate variability *as well as* adapt to longer-term climate change.

4. CARE produced another *toolkit* in 2011, directly responding to the needs of practitioners wanting to integrate climate change adaptation measures into other development sectors, such as disaster risk reduction (DRR) and food and nutrition security. This toolkit enables climate change information, climate vulnerability analysis and *climate-resilient* livelihood options and technologies to be introduced into ongoing development projects, thus improving their effectiveness and longer-term sustainability.
5. Many developments in CARE's approach to CBA have come directly from project experience. For example, in 2011 CARE Vietnam piloted a new approach to participatory planning for watershed management that proved extremely effective and of relevance for most types of CBA project. *The Visioning Approach* is now widely used within CARE to encourage community engagement with adaptation planning.
6. In 2012, CARE, in partnership with the International Institute for Environment and Development (IIED), published the *Participatory Monitoring, Evaluation, Reflection & Learning (PMERL) for Community-Based Adaptation Manual*. The manual promotes community-led monitoring, evaluation and learning processes that contribute to the impact and sustainability of adaptation activities beyond the life of a CBA project.
7. Global research and learning programmes have also contributed to CARE's approach to CBA. For example, in 2012, the *Adaptation Learning Programme for Africa (ALP)* produced a brief about using multi-stakeholder learning events as a mechanism for participatory sharing, and interpretation of, climate information and forecasts – *Decision-making for climate resilient livelihoods and risk reduction: a participatory scenario planning (PSP) approach*.
8. ALP also adapted the original CBA 'flower' diagram (see figure 2) to emphasise the use of climate information, and the uncertain nature of climate risk, in guiding project/community decision-making as the critical distinguishing features of adaptation work.

Figure 2: The updated CBA 'flower' diagram



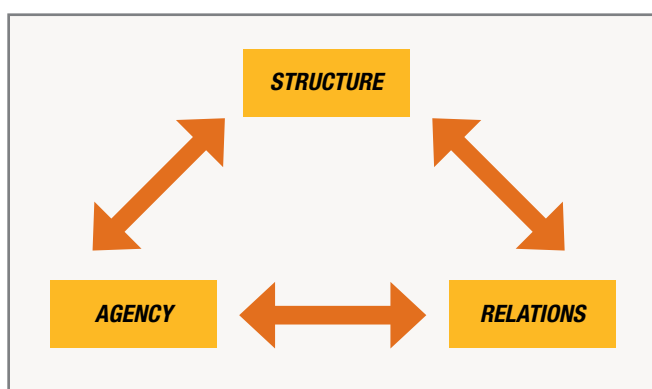
2.2 Gender equality and women’s empowerment

Inequality in access to rights, resources and power lies at the root of poverty and vulnerability. Neither can be reduced effectively without taking action to understand and address these inequalities. Gender, along with other factors such as wealth, status and ethnicity, determines the rights, roles, opportunities, power and access to and control over resources for individuals living in every society.

We recognise, based on our own experience and multiple sources of global evidence,¹ that addressing gender inequality can be an effective strategy for reducing poverty. However, CARE’s focus on *gender equality* stems from a firm commitment to facilitating the realisation of women’s human rights as a goal in itself. So, as a rights-based organisation, CARE is committed to promoting *gender equality* as a crosscutting component in all of our work.

Furthermore, the valuable contributions that our projects make to women’s lives – the health, security, economic or political gains that we help women to achieve – can be quickly reversed unless there are deeper changes in the structures, rules and power relations that define how a society allocates resources among citizens. No individual measure of change can be sustained if it is not grounded in *women’s empowerment*.

CARE defines *women’s empowerment* as the sum total of changes needed for a woman to realise her full human rights. The interplay of these changes lie in three dimensions:



- **agency:** her own aspirations and capabilities
- **structures:** the environment that surrounds and conditions her choices
- **relations:** the power relations through which she negotiates her life choices.

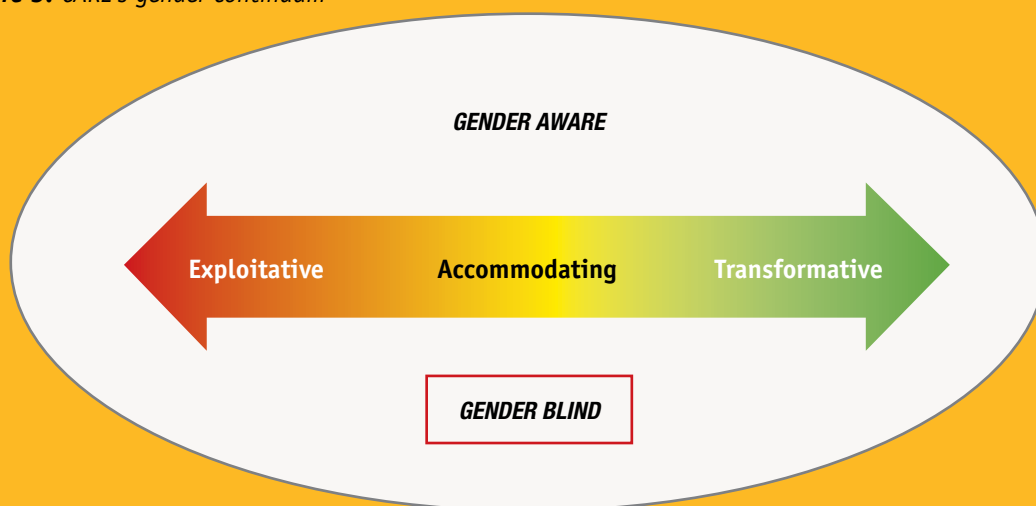
In order to be accountable for our impact on women’s empowerment, CARE has a global framework that outlines 23 key dimensions of social change that should be considered within our project work:

Agency	Structure	Relations
<ol style="list-style-type: none"> 1. Self-image; self-esteem 2. Legal and rights awareness 3. Information and skills 4. Education 5. Employment/control of own labour 6. Mobility in public space 7. Decision influence in household 8. Group membership and activism 9. Material assets owned 10. Body health and bodily integrity 	<ol style="list-style-type: none"> 11. Marriage and kinship rules, norms, processes 12. Laws and practices of citizenship 13. Information and access to services 14. Access to justice, enforceability of rights 15. Market accessibility 16. Political representation 17. State budgeting practices 18. Civil society representation 	<ol style="list-style-type: none"> 19. Consciousness of self and others as interdependent 20. Negotiation, accommodation habits 21. Alliance and coalition habits 22. Pursuit, acceptance of accountability 23. New social forms: altered relationships and behaviours

1. For example, in the UNFPA state of world population 2005 publication *The Promise of Equality: Gender Equity, Reproductive Health and the Millennium Development Goals*

Integrating gender equality and women’s empowerment approaches into our climate change programmes can help to ensure that adaptation outcomes are effective and sustainable. It also helps to ensure that project activities do not exacerbate other inequalities and vulnerabilities, and that they fulfil the specific needs of the most vulnerable groups. Our CBA approach promotes the equal participation of men and women in the decision-making and implementation phases of activities, and ideally aims to create lasting *transformative* change (see figure 3) in gender relations as part of building the adaptive capacity of the whole community.

Figure 3: CARE’s gender continuum



BOX 3:

Gender Blind refers to the absence of any proactive consideration of the larger gender environment and specific gender roles affecting program/policy beneficiaries. Gender blind programs/policies would give no prior consideration for how gender norms and unequal power relations affect the achievement of objectives, or how objectives impact on gender.

Gender Aware refers to explicit recognition of local gender differences, norms, and relations and their importance to outcomes (could be health, education, livelihoods related outcomes) in project design, implementation, and evaluation. This recognition derives from the analysis or assessment of gender differences, norms, and relations in order to address gender equity in outcomes.

Gender Exploitative refers to approaches to project design, implementation, and evaluation that take advantage of rigid gender norms and existing imbalances in power to achieve the program objectives.

Gender Accommodating approaches acknowledge the role of gender norms and inequities and seek to develop actions that adjust to and often compensate for them. While such projects do not actively seek to change the norms and inequities, they strive to limit any harmful impact on gender relations.

Gender Transformative approaches actively strive to examine, question, and change rigid gender norms and imbalance of power as a means of reaching outcomes (in a particular sector) as well as gender equity objectives.

At an African regional learning *event* held in Ghana in 2011, CARE practitioners and representatives from partner organisation made the following recommendations for how to implement gender-equitable CBA projects:

Project management

1. Conduct gender and other power analyses prior to adaptation activity planning to ensure that the different levels of knowledge, skills, power and capacities in the community are well understood.
2. Include an analysis of the drivers of change in gender roles and relations – how power dynamics are shifting due to the pressures and stresses of climate change and other factors over time.
3. Ensure that gender considerations are included at all stages of the CBA project cycle. Community-based adaptation methods and tools should be tailored to the local context and climate information to ensure that they respond to gender dynamics and the realities of change, risk and uncertainty.

Monitoring and evaluation

4. Monitor and document gender equality outcomes in CBA projects to generate critical knowledge and evidence, which can be used to advocate for, and contribute to, an enabling policy environment for gender-equitable CBA at community, national and global levels.
5. Recognise that gender is about power relations. Therefore, it is important to monitor and evaluate gender dynamics not only in absolute terms (numbers of female/male beneficiaries) or in isolation (impacts on men versus impacts on women), but also in relative terms (increases or decreases in gender gaps, changes in gender relations).

Working with others

6. Promote the inclusion of gender-equitable CBA strategies in government climate change plans, policies and programmes at local, national and international levels.
7. Internally assess and respond to the knowledge, attitudes and practices related to gender equality within partner organisations and networks for successful implementation of CBA projects.
8. Develop capacity-building programmes that emphasise the vision, value and importance of gender-equitable CBA in order to respond to the continuously changing and unpredictable context of climate change.

3. GLOBAL LEARNING

CARE's Moses Tampuri explaining 'block' farming (collective farming with a learning agenda) in Zambulugu, Ghana. © Agnes Otzelberger / CARE



Farmer displaying his millet harvest from improved seeds in Na Allah village, Dakoro, Niger. © ALP staff / CARE

This section looks at what CARE has learned about the bigger picture of CBA in practice, through global and regional (multi-country), or multi-NGO, learning programmes.

3.1 An economic rationale for CBA²



In 2010, CARE's *Adaptation Learning Programme for Africa (ALP)* was created in partnership with communities in Kenya, Ghana, Mozambique and Niger. ALP's overarching goal is to increase the capacity of vulnerable households in sub-Saharan Africa to adapt to climate variability and change.

2. Based on the work of Fiona Percy (see Thomson Reuters Foundation blog <http://www.trust.org/item/20140428203501-u0n3w/?source=hpblogs>) and the ALP/NEF publication *Managing uncertainty: An economic evaluation of community-based adaptation in Dakoro, Niger, 2014* <http://www.nef-consulting.co.uk/managing-uncertainty/>

Towards this end, the programme has:

- developed and applied innovative approaches to CBA to generate good practice models
- strengthened the voice of local communities and civil society organisations in decision-making on adaptation
- promoted good practice models for CBA among adaptation practitioners and networks, locally and globally
- influenced national, regional and international adaptation policies and plans
- contributed to the global knowledge base on CBA.

Among many other things, ALP wants to show policy makers that CBA is not simply a cost-effective response to climate change, it also brings a multitude of positive development benefits. Now, four years on, the programme is starting to see some encouraging signs that this hypothesis holds true.

The bottom line

ALP has been working with pastoralists in the dryland areas of Kenya and Niger. These communities are grappling with the challenges of living in fragile ecosystems, including land degradation, successive years of drought, and conflict over scarce resources – challenges that are being exacerbated by climate change.

New Economics Foundation research conducted in partnership with ALP shows that CBA can make a positive difference in such areas. One study worked with two communities in Garissa, Kenya,³ to forecast the potential benefits of CBA under different climate scenarios into the future (2010-30). More recently, in-depth research was carried out in four communities in Niger, using three years' worth of data. It concluded that CBA delivers a range of social, environmental and economic benefits to these pastoralist communities, even in volatile and evolving environments such as dryland areas.

In Kenya, the study showed that under the most realistic scenarios, investing £1 in CBA could generate between £1.45 and £3.03 of wealth for communities. These figures were validated by the results of the evaluative study in Niger, which suggest that for every £1 invested in CBA, returns of between £4 and £6 are likely, across a range of climate scenarios. Even when the analysis is limited to economic benefits only, returns on every £1 invested are between £2 and £2.80.

In the most conservative scenario, the costs of intervention were still 2.6 times lower than doing nothing to counter the impacts of climate change and extreme events (and then having to respond to disasters).

In Niger, CBA was also found to increase revenue from both agricultural and livestock activities, with communities experiencing a 40% average increase in agricultural returns since 2010, even though productivity has not increased significantly and livestock headcount is decreasing.

In the case of agricultural revenue, this is thought to be due to the '*warrantage*' system – an adaptation strategy involving pre-payments or loans for stored harvests, with farmers able to sell their produce or repay their loans when prices are higher. The boost in revenue from livestock can be attributed to higher value being placed on the health of herds, with more money spent on vaccines and food supplements.

3. New Economics Foundation, *Counting on uncertainty: The economic case for community based adaptation in North-East Kenya*, 2012. www.careclimatechange.org/files/adaptation/Counting_on_Uncertainty_July12.pdf

Finally, the research makes it clear that CBA delivers higher returns on investment compared with other interventions – certainly higher than for those that aim only to reduce disaster risk. This is particularly relevant for dryland communities, where a large proportion of existing investment goes towards disaster risk reduction (DRR) and emergency preparedness.

‘Soft outcomes’

These changes also reflect a growing level of ‘adaptive capacity’ in communities – put simply, people’s ability to adapt to the impacts of climate change – through shifts in traditional attitudes and practices, as well as decision-making processes that are more flexible and forward looking.

Alongside economic benefits, the study also pointed to better social and environmental indicators: improved health and education, more inclusive decision-making for women, and reduced deforestation and land degradation.

Implications

The ALP programme has provided strong and rigorous evidence that community-based adaptation works. This suggests that it should become a priority for investment, both in national development budgets and in international finance for climate change adaptation.

The programme’s action research has also started to demonstrate the value of CBA as an approach that integrates adaptive capacity, more resilient livelihood options and DRR, so that the communities we work with can better adapt to climate impacts in the long term.



Khaephor Phetpichitchai in her rice field after having lost almost half of her harvest (too little rain results in low seed production) Chiang Mai, Thailand. © Phalakorn Phaomai / CARE

3.2 CBA, food security, and migration⁴



CARE’s action research project *Where the rain falls: climate change, food and livelihood security, and migration* (WtRF), undertaken in partnership with the United Nations University Institute for Environment and Human Security (UNU-EHS), explores the interrelationships between rainfall variability, food and livelihood security, and human mobility in a diverse set of research sites in eight countries in Asia (Bangladesh, India, Thailand, Vietnam), Africa (Ghana, Tanzania) and Latin America (Guatemala, Peru).

4. Based on the work of Koko Warner, Tamer Affi, Kevin Henry, Tonya Rawe, Christopher Smith, Alex De Sherbinin: *Where the rain falls: climate change, food and livelihood security, and migration* http://wheretherainfalls.org/wp-content/uploads/2014/01/2755WTRF_report_lowres.pdf

The central focus of the *Where the rain falls* initiative is to explore the circumstances under which households use migration as an adaptation/risk management strategy when faced with rainfall variability and food and livelihood insecurity.

Field observations

Perceptions of climate change: Rural people living in the eight research locations overwhelmingly perceive current climatic changes in the form of *rainfall* variability, and these perceptions shape household adaptation and risk-management decisions. The most common changes reported relate to the timing, quality, quantity and overall predictability of rainfall, including: delayed onset and shorter rainy seasons; reduced number of rainy days per year; increased frequency of heavy rainfall events; and more frequent prolonged dry spells during rainy seasons. In most cases, these perceived changes correlate with an analysis of local meteorological data over the last several decades.

Food insecurity: The largely agriculture-based households in the research sites overwhelmingly report that rainfall variability negatively affects production and contributes to food and livelihood insecurity. Levels of food insecurity varied significantly across the eight sites, depending on such factors as: the total amount and seasonality of rainfall; the degree of agricultural intensification; the extent of livelihoods diversification; and poor households' access to a social safety net and other support services.

The characteristics of climate-induced migration: Migration, which was common in the eight research sites, was observed to have the following characteristics:

- it occurs almost entirely within national borders
- it is predominantly male, but with growing participation by women in a number of countries
- it is largely by individual household members (with India as the exception where entire nuclear families moved together)
- it is largely driven by livelihood-related needs (household income) in most countries, but with a growing number of migrants seeking improved skill sets (e.g. through education) in countries like Thailand, Vietnam, and Peru
- it is a mix of rural-rural and rural-urban, with more productive agricultural areas (Ghana, Bangladesh, Tanzania), nearby urban centres (Peru, India), mining areas (Ghana) and industrial estates (Thailand, Vietnam) being the most common destinations.

Migration as an adaptation/risk management strategy: Households manage climatic risks like changes in rainfall variability with migration. Migration – seasonal, temporary or permanent – plays an important part in many families' struggles to deal with rainfall variability and food and livelihood insecurity, and was reported to have increased in recent decades in a number of the research sites. Rainfall was observed to have a more direct relationship with household migration decisions in research sites where dependence on rain-fed agriculture, often with a single harvest per year, was high and there were few local livelihood diversification options. Pressure on rainfall-dependent livelihoods is likely to grow as a driver of long-term mobility in the coming decades if vulnerable households are not helped to access or create more climate-resilient livelihoods locally.

Adaptive capacity and migration: Household vulnerability to rainfall variability affects food and livelihood security outcomes and migration choices and patterns. Households with more diverse assets and access to a variety of adaptation, livelihood diversification or risk-management options – through social networks, community or government support programmes, and education – can use migration in ways that *enhance resilience*. Those households that have the least access to such options – few or no livelihood diversification opportunities, no land, little education – use (usually) internal migration during the hunger season as a *survival strategy* in an overall setting of erosive coping measures that leave or trap such households at the margins of decent existence.

Moving from research into action

As an action research programme, in 2013, the focus of WtRF shifted from lessons learned through multi-country research to the design and start up of CBA activities in Peru, India, Thailand and Tanzania. All four projects are now well underway and beginning to demonstrate results and generate learning.⁵

For example, in **Peru**, given the prospect of reduced water availability in the area due to the rapid retreat of the *Huayatapallana* glacier, the CBA project focuses on the expanded cultivation of native potato and cereal (quinoa) varieties that have lower water requirements than the white potatoes and artichokes currently being cultivated. This also addresses the problem of malnutrition in the region as quinoa has much higher nutritional value.

In **India**, the team conducted an in depth gender equality assessment resulting in a CBA project focused on increasing the resilience of *adivasi* (tribal) women to climate change and other stresses in 20 villages in the *Jashpur District of Chhattisgarh*. As a result of engaging women and providing training on their rights, under various government programmes and policies, local governance meetings witnessed up to five times greater participation from *adivasi* women, when compared to baseline levels. Women raised several local issues vocally and by submitting written applications, including those related to availability of water and other resources.



Women farmers gather their crop of native potatoes in Huancayo, Peru.
© WtRF staff / CARE

3.3 Joint Principles for Adaptation – an advocacy tool

Since 2011, the *Southern Voices on Climate Change* programme has been supporting around 20 climate policy networks in Africa, Asia and Latin America in their efforts to advocate for climate policies that benefit poor and vulnerable people. Behind the programme is a consortium of four Danish and two international non-governmental organisations (NGOs), with CARE Denmark as the lead agency.⁶ From 2014 the Southern Voices work on adaptation has taken a new direction and is focusing on developing and testing a set of ‘joint principles’ for adaptation planning, which promote CBA as a proven mechanism to ensure more equitable and poverty-reducing outcomes for vulnerable people.

5. More information on the WtRF CBA projects in Peru, Tanzania, India and Thailand can be found at: <http://wheretherainfalls.org/mission/>

6. Danish 92 Group, IIED, CAN-International, DanChurchAid, Sustainable Energy, IBIS and CARE Denmark <http://southernvoices.net/en/>

JOINT PRINCIPLES FOR ADAPTATION

The *Joint Principles for Adaptation* (see table below) form a statement of what civil society organisations from across the world consider to be a benchmark for good adaptation planning. The principles were developed in 2014 as a joint initiative by civil society networks from Africa, Asia and Latin America that are working on climate change⁷ and will be further revised as they are tested in more countries. Each of the seven principles incorporates a subset of qualifying criteria. Principles A, D and E directly promote CBA as a mechanism for generating and implementing equitable and pro-poor adaptation policies, activities and planning.

The *Joint Principles* are framed in a way that can be generally applicable across a wide range of country contexts. They can be used in any of three ways, outlined below. In all modes, a useful starting point is to use the *Joint Principles* to assess the status of national adaptation policy and planning.

1. TO SET ADVOCACY OBJECTIVES

The *Joint Principles* can be used to identify gaps between the existing status of adaptation planning in a country and the desired level. These can then be used to define the areas in which civil society might undertake advocacy. Used in this way, the *Joint Principles* serve as an internal tool for civil society organisations.

Example: *As a result of national-level analysis, civil society groups may choose to mount a campaign to ensure that “Adaptation funding is made available through a transparent process of allocation” (Principle B.2).*

2. TO PROMOTE DIALOGUE WITH GOVERNMENT

A performance assessment using the Joint Principles can be carried out in collaboration by civil society groups and government representatives, and subsequently used to develop an agreed national benchmark for adaptation plans, policies and programmes. Thus the Joint Principles serve as an input for developing a nationally recognised adaptation standard towards which all stakeholders in the country agree to work.

Example: *By collaboratively considering the Joint Principles, government and civil society might formally agree the roles that civil society will play in the process of developing a National Adaptation Plan.*

3. TO DETERMINE CAPACITY-BUILDING NEEDS

A participatory stakeholder assessment based on the *Joint Principles* can help identify the areas where capacity among civil society, government or other actors needs to be built in order for the desired level to be attained.

Example: *The Joint Principles may indicate that local government staff need training and support in how to develop local adaptation plans using community-based approaches.*

Once the *Joint Principles* have been tested in practice and refined, they will be integrated into CARE’s CBA tools and guidelines to better illustrate *how* to implement and link local-to-national level CBA advocacy and adaptation planning activities.

7. The core national networks involved in this project are: Civil Society Network on Climate Change, Malawi; NGO Climate Change Working Group, Vietnam; Climate Change Network and NGO Forum, Cambodia; National Alliance on Climate Change, Nicaragua; and Environmental Defence League, Bolivia. In addition, a further 5-7 networks from other countries and regions will be selected during the course of the project to pilot and help refine the principles.

Table: Joint Principles for Adaptation

National frameworks for adaptation planning lead to a more equitable and more effective response to climate change when:

Principles	Criteria
A. The planning process is participatory and inclusive	1. The knowledge and experience of local communities and indigenous peoples is incorporated
	2. Communities affected by climate change participate in defining options and priorities
	3. Plans are publicised in ways that local people can understand and engage with
B. Public funds for adaptation are utilised efficiently and managed transparently and with integrity	1. The implementation and financing of plans is periodically monitored by a body on which civil society is represented
	2. Adaptation funding is made available through a transparent process of allocation
	3. There is full and free access to information on how adaptation funds are being spent (finances and processes)
	4. There is a mechanism in place to safeguard against initiatives that might have negative impacts
	5. A secure mechanism for expressing grievances and seeking redress is available
C. All government sectors and levels of administration have defined responsibilities and appropriate resources to fulfil them	1. National adaptation plans carry the authority to enable different government sectors to work in a coordinated way
	2. Existing initiatives are enhanced to take climate change into account
	3. Funding for adaptation is explicitly provided for within the national budget and respective sectoral allocations
D. Local adaptation plans developed through community-based approaches are a core element	1. Local adaptation plans are formalised and integrated into the development priorities of local administrations
	2. Significant resources are allocated towards implementation of local adaptation plans
	3. Financing arrangements make commitments for multi-year programmes of support to vulnerable communities
E. The resilience of women and men who are most vulnerable to climate change is built	1. Plans identify and target people who are socially and economically most vulnerable
	2. Programmes take into account the differentiated needs and capacities of women and men in different social groups
	3. Initiatives that enhance community adaptation through greater social integration and cohesion are promoted

continued on page 26

<p>F. There is a balance between the investment in physical infrastructure and the building of skills and capacities</p>	<ol style="list-style-type: none"> 1. Adequate resources are made available to improve the effectiveness of institutions responsible for managing climate change adaptation 2. Adequate resources are made available for raising public awareness and education about climate change 3. Investment plans contain targets for both 'soft' and 'hard' interventions
<p>G. Plans respond to evidence of the current and future impacts of climate change</p>	<ol style="list-style-type: none"> 1. Adaptation plans consider how climate is affecting existing vulnerabilities 2. Planning scenarios are based on the best available science and evidence from the ground 3. Interventions are modified as new information becomes available 4. Climate information is made accessible to enable adaptive decision making by all stakeholders

3.4 Working in an NGO consortium in Vanuatu



CARE staff join consortium colleagues and community members for a climate change adaptation meeting, Vanuatu. © OXFAM

Vanuatu's location on the Ring of Fire and cyclone belt subjects it to a wide range of geological and hydro-meteorological hazards. Community-based climate assessments have already recorded increasing temperatures, changed rainfall patterns and rising sea levels. This is supported by scientific data projecting that dry seasons are likely to become drier and wet seasons wetter, extreme rainfall events to be more frequent, temperatures to further increase, cyclones may strengthen and there is likely to be further increases in ocean acidification and sea-level rise. In a country where 80% of the population live subsistence lifestyles, these factors pose a significant risk to health and livelihoods.

"Yumi stap redi long klaemet jenis", the Vanuatu NGO Climate Change Adaptation Programme, brings together a consortium of national and international NGOs⁸ to support increased community resilience to climate variability and change in Vanuatu in a coordinated, creative and innovative way. By working in a consortium NGOs can draw on each other's strengths, learn from each other's practice and work towards a cohesive approach to building climate change resilience in Vanuatu. The project works with communities across 11 islands in 4 provinces and use the lessons to support policy and practice at a national level.

8. **Consortium Members:** Consortium Members –Save the Children Australia, CARE International in Vanuatu, Vanuatu Red Cross Society, Vanuatu Rural Development Training Centres Association (VRDTCA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The project is coordinated by Oxfam and is an Australian aid initiative funded by the Australian Department of Foreign Affairs and Trade.

A shared framework for building resilience

A key tool to developing a cohesive approach has been the development of the **Vanuatu community resilience framework**. Developed by the consortium, it breaks down the goal of supporting communities to build their resilience into a set of 8 enabling characteristics at the community level.

Figure 4: Enabling characteristics of building community resilience in Vanuatu



Equity between women, men, young people, and those with a disability is a key contributor to the achievement of each feature of the resilience framework.

The framework has been piloted throughout the project and is used to guide consortium reflection and donor reporting. While all consortium members have different approaches to resilience programming at community level, the framework provides coherence in working towards a common definition of program impact. Furthermore, regardless of the sectoral focus of different agencies, the framework encourages people-centred approaches that support building the adaptive capacity of the whole community.

Consolidating activities and learning - A small country, such as Vanuatu, cannot afford to have multiple projects and processes working in isolation. By working together, the programme partners pursue a coordinated approach to CBA programming. The partners have a range of specialist skills, resources, expertise and networks, which are shared across the group. The group develops and pursues additional funding sources to support emerging opportunities and communicate outcomes of the programme in a coordinated way.

Building on existing practice – Each agency integrates CBA into their existing work, to support vulnerable communities to build their resilience to the impacts of climate variability and change. This means that the programme is adding value to existing development initiatives in Vanuatu, avoiding the common misconception that adaptation is a *separate* sector. It builds on our experience in disaster risk reduction, food security, water security, coastal protection, and community planning. Existing technologies, tools, education materials and resources are shared across consortium agencies to limit duplication and integrate local knowledge and climate change considerations as appropriate. For example, consortium members are working with communities to revive traditional food storage practices, and introduce new and innovative methods including the use of solar dryers to store food for both household consumption and sale.

Linking community (traditional) and scientific climate information – The people of Vanuatu have adapted to climate extremes and variability over many years, but the impacts of climate change are expected to go beyond the limits of this knowledge base. This is especially true for many women, young people and those with a disability who face barriers accessing traditional knowledge and external information. There is a gap in available tools for communicating climate change at local level in Pacific communities, in a way that motivates action. The consortium has been highly successful at rolling out standardised adaptation and disaster risk reduction messaging at community level. This has included the use of the *Klaod Nasara Toolkit*⁹, which engages communities to increase their understanding of weather, climate, climate-related hazards and adaptation options, and facilitates further discussion on where and how communities can access further information. Localised climate assessments, including the use of Community Vulnerability and Capacity Assessments (*CVCA*), are contributing to the evidence base of climate-related risk, vulnerability and impacts across the country.

Civil society strengthening and advocacy

The program supports the Vanuatu Climate Change Action Network, which engages staff from national and international NGOs, government and multilateral agencies. This group has provided a platform for knowledge sharing and joint advocacy, preparing submissions to a range of national and international policies and platforms on climate change adaptation and disaster risk reduction. The network has also been effective in its fostering of women's leadership in climate change, supporting women civil society representatives in a gender balanced delegation to COP19, the 2013 UN Climate Change conference. The Vanuatu Government has established a National Advisory board on climate change and DRR (NAB), which acts as the main decision-making and advisory body on all climate change and DRR policies and activities. VCAN has a representative on the NAB, signalling the strong relationship that the programme has fostered between the government and civil society.

9. Materials developed by a collaborative project between Red Cross and the Australian Government's Pacific-Australia Climate Change Science and Adaptation Planning (PACCSAP) Program. The project was implemented by the Red Cross, the Australian Bureau of Meteorology, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Vanuatu Meteorology and Geo-hazard Department (VMGD) and the SPC-GIZ Climate Change Program. <http://www.pacificclimatechangescience.org/animations/cloudnasara/>



4. AFRICA

Sharing climate information through song near Dakoro, Niger. © Agnes Otzelberger / CARE



Regional overview

Number of CARE Climate Change programme initiatives:¹⁰ 34

East and Central Africa: Ethiopia, Kenya, Rwanda, Tanzania, Uganda

Southern Africa: Malawi, Mozambique, Zimbabwe

West Africa: Benin, Ghana, Mali, Niger, Sierra Leone

The climate change context for the region:¹¹

Climate change will continue to increase the vulnerability of agricultural systems throughout Africa, particularly in the semi-arid regions. Warming temperatures and a shorter wet season could lead to a reduction in cereal crop productivity, which would have strong negative effects on food security. There could also be a shift from mixed crop-livestock to more livestock production because of longer droughts. This would result in a decrease in crop production, putting millions of additional people at risk of food insecurity. Climate change is also expected to compound existing environmental and socio-economic drivers, such as land use change and increased damage from agricultural pests, weeds and diseases. This would make it even more difficult to feed the continent's growing population. Fisheries, a major source of protein for many countries, are potentially likely to be negatively impacted by climate change, especially in west Africa.

10. Based on information collected for FY2013 through CARE's global annual reporting process.

11. Regional overview is taken from – IPCC regional breakdown of projected impacts 2014

http://treealerts.org/wp-content/uploads/2014/03/IPCC_AR5_WG2_Regional_Breakdown_16Mar2014.pdf

4.1 Farmer field schools in Mozambique¹²



Harvesting beans at the conservation agriculture demonstration plot, Vilankulos, Mozambique. © Faith Amon / CARE

Eighty percent of Mozambique's smallholders depend on rain-fed, non-mechanised and subsistence-based farming practices. Much-needed agricultural extension services and inputs such as fertilisers, pesticides and improved plant varieties are difficult to access. Increasingly irregular rainfalls, cyclones and higher temperatures are placing further constraints on farmers' livelihoods, agricultural productivity and food security. In the *Nampula* region, poor soils, limited access to water, infrastructure and transport, reducing fish stocks and shortened fishing and farming seasons leave these communities in a highly vulnerable situation.

Capacity development for local civil society and government institutions

In the Angoche District of Nampula, CARE Mozambique and the National Association of Rural Extension (AENA) are using farmer field schools (FFS) to strengthen links between different agricultural service providers and to build farmers' capacities in sustainable agriculture techniques. Farmers meet weekly to practise conservation agriculture (CA) as a live demonstration throughout the year, focusing on protecting and building soil fertility and introducing a wider diversity of crop varieties. Conservation Agriculture uses mulch, green manures (soil-enhancing crops, herbs and trees) crop mixtures and rotations of groundnut, pigeon peas and cowpea between the staple crop, cassava. These cover the soil, increase water retention from any rains that occur, recycle nutrients and improve soil structure.

The farmer field school (FFS) model exists in many countries around the world. In contrast to the usual model of knowledge transfer – from an expert agricultural extension worker to a farmer – the FFS approach uses participatory teaching methods and is specially adapted to adult learning needs. Farmers regularly visit the FFS, where they can experiment with different farming techniques and crop varieties. This allows them to observe and analyse how and why different outcomes are generated, and so be able to make informed decisions about farming techniques.

Promotion of climate-resilient livelihoods strategies

The FFS model provides a platform for learning that directly relates to the practices farmers depend on for their livelihoods. Learning is practical in nature and promotes the sharing of observations and experience among farmers,

12. Based on the work of Mario Basilio, *Joto Afrika Issue 11, 2012* www.careclimatechange.org/files/adaptation/JotoAfrika_SpecialIssue201212_03.pdf

which has led to the replication of good practice techniques, even on the farms of non-participating farmers. Through regular discussions, farmers are able to analyse their own techniques and local knowledge, assess the value of new practices introduced by extension workers, and conduct their own experiments in farming innovation. FFS strengthens farmer organisations and provides social benefits, for example organised access to inputs and markets, savings and credit. It also increases solidarity among members while strengthening the voices of many women farmers in the community.

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

Farmers in Angoche have recently been discussing how they might better access weather information via text messages from local disaster risk reduction agents, or by radio. Early warnings of cyclones and droughts, as well as seasonal forecasts that provide information about rainfall probability and estimate when rainfall periods are likely to occur, can allow farmers to make better-informed decisions about which crop and variety combinations to invest in on their farms. The FFS demonstration plots can also provide a useful testing ground for trying out different combinations of crops and keeping a record of their success in relation to actual rainfall. This can then inform future decisions on crop selection depending on the likely weather scenario.

Advocacy and social mobilisation to address the underlying causes of vulnerability

The FFS approach contributes directly to building the adaptive capacity of farming communities. It does this by increasing their knowledge, improving access to information and services, assisting with innovation in farming technologies and techniques, strengthening collective organisation and, in particular, enhancing their ability to make more informed and anticipatory livelihood decisions. The project plans to build on the current FFS system to more deliberately include climate change awareness and adaptation planning, drawing on the *CBA Framework* and other FFS climate change approaches. Community members are already reporting that their FFS attendance helps them to understand and address climate change impacts and that they are keen to improve their adaptation measures for better risk management and more resilient livelihoods.

4.2 Community adaptation action planning in Niger¹³

This project example outlines the participatory process through which community-based adaptation action planning (CAAP) was carried out with 20 pastoralist and agro-pastoralist communities in the Dakoro district, Niger. CAAPs have allowed the communities to prioritise risks and make collective decisions on actions they can take to better adapt to the impacts of climate change.



Seasonal mapping at a women's meeting in Dakoro district, Niger. © Ibrahim Niandou / CARE

13. Based on the work of Awaiiss Yahaya, *Joto Afrika Issue 11, 2012* www.careclimatechange.org/files/adaptation/JotoAfrika_SpecialIssue201212_03.pdf

Steps in Community Adaptation Action Planning (CAAP)

1. Preparation, training and collecting baseline data

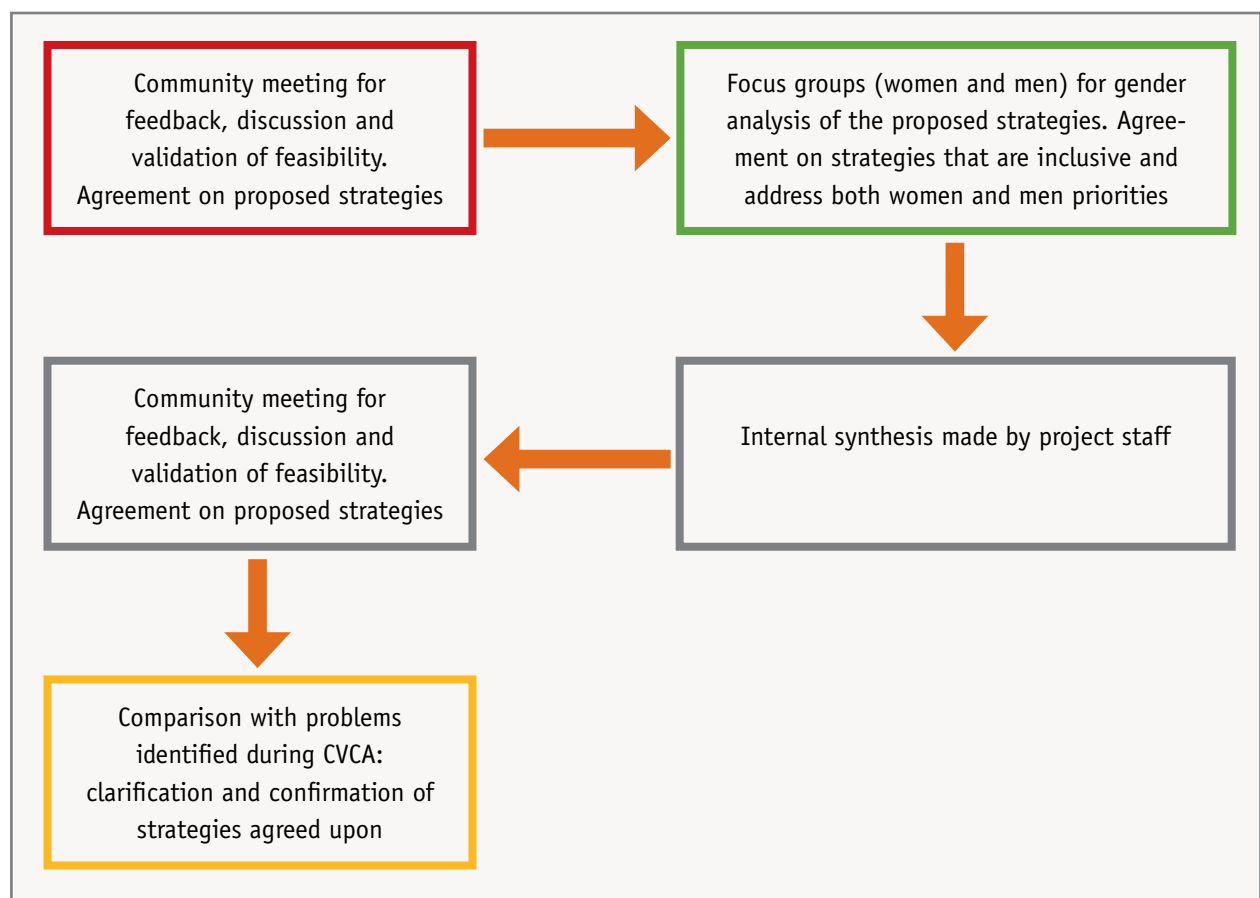
A **baseline study** was undertaken, involving interviews with several community focus groups (men / women / young people), and using participatory appraisal tools and individual household questionnaires to understand how community members perceive climate change, its impact on their daily lives and their existing coping mechanisms.

An **institutional analysis** was then carried out by CARE Niger and partner project staff mapping the relevant actors, institutions and programmes within the *enabling environment*, e.g. national government policies, market systems and services, civil society partners, etc.

2. Participatory planning and identifying priorities for adaptation strategies

A thorough participatory analysis of the causes of vulnerability, through in-depth community discussions, enabled communities to identify and prioritise some adaptation strategies. *Risk analysis trees* were used to probe more deeply into the underlying causes of the identified risks and to uncover the role of social inequality in increasing the vulnerability of some groups within the communities. The proposed strategies had to be consistent with the identified risks and be sustainable and accessible to even the most vulnerable groups. Parallel discussions were facilitated with gender equality-based focus groups to ensure the representative inclusion of the priorities of men, women and young people alike. The idea was to focus on the most sustainable strategies relating to the root causes of community vulnerability.

Figure 5: The CAAP process



a. Feasibility analysis

An analysis of economic, technical, social and environmental feasibility was completed using a matrix ranking exercise. This was followed by a gap analysis for each proposed strategy by assessing them against the CBA framework. The adaptation plans had to deliver outcomes in all four of the CBA framework strategy areas, and were also screened against future climate scenarios to ensure climate resilience.

b. Gender analysis

Each community then validated the outcomes of the feasibility analysis and further analysed the most effective strategies in regard to gender roles and relations. They assessed the implications for women, men, households and the community as a whole, in terms of time, labour, resources and social relations. This was to avoid overloading women, who spend the most time and labour in household-related tasks, with too much additional work. Different roles and responsibilities were then negotiated between women and men in the communities to encourage a more sustainable and equitable division of labour as part of increasing the adaptive capacity of the community as a whole.

3. Implementing community adaptation action plans

Each community came to an agreement about the main strategies suitable for both women and men to adapt to the impacts of climate change. The strategies were documented and transcribed on to large flipchart papers using agreed local symbols. This helped to share and communicate the plans to the entire community and ensured local understanding and ownership. In fact, most women and men are now able to explain the rationale and content of their CAAP and are systematically reviewing their progress and plans annually – at the time of the seasonal rain forecast.

Advocacy and social mobilisation to address the underlying causes of vulnerability

In *Dakoro*, one of the main issues affecting people's ability to adapt to climate change was limited access to and control of the natural resources provided by the *Tarka Valley*, a critical dry season grazing area, which buffers the agro-pastoralist zone to the south and pastoralist zone to the north. This area is threatened by the impacts of climate change and demographic pressure. The project has worked with partner *AREN* (Association for the Revitalisation of Livestock Keeping in Niger) to develop a strategic advocacy plan for protecting the Tarka Valley, and to ensure that pastoralist rights over natural resources are taken into account locally and at national level.

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

The project has supported the implementation of early warning and emergency response committees at community level. The committees collect rainfall records and share them with the local government vulnerability monitoring observatories (OSV), which then pass them on to local radio, as well as to higher governance levels of the early warning system. The radio broadcasts provide up-to-date information, informing decision-making on crop variety and planting timing, which reduces the risk of seed loss through multiple replanting and reduced harvests. As a result of the early warning system, community information is taken into account at municipal, departmental and even national levels, and emergency responses like food distribution, pest control or cash for work are better tailored to reach needy households.

Promotion of climate-resilient livelihoods strategies

CAAP activities support climate resilient livelihoods, including the use of drought tolerant millet seed, tree planting for firebreaks and income production, and the rearing of goats rather than sheep, since they are more tolerant to drought conditions. In addition, savings and loans schemes and the promotion of crop *warrantage*, a system whereby harvests are 'pre-purchased' by the community group at an agreed average price, then stored and sold on the market at a later date when the price is higher, have enabled farmers to secure their harvests, pay off their debts and have

a surplus for food. The group account system ensures sustainability, in that farmers are able to use their profits to ‘purchase’ the next season’s harvest.

Capacity development for local civil society and government institutions

The CBA planning process in itself has strengthened men and women’s capacity to analyse and make informed decisions on resilience-building activities and more specific responses to climate change impacts. Rainfall information in the communities has particularly empowered local ownership of decision-making and innovation over rain-dependent activities.

To ensure local support for the implementation of the CAAPs, the plans were shared with the local authorities for consideration during Commune (local government level) Development Planning. Awareness-raising and capacity-building activities on adaptation have ensured a commitment to integrating analysis of, and response to, climate change impacts in planning processes. It is envisioned that continuous dialogue between the communities, project team and local authorities will open the way for the commune development plans to integrate the communities’ adaptation priorities.

4.3 Participatory scenario planning in Kenya¹⁴



Participants at a PSP workshop, Garissa, Kenya. © ALP staff / CARE

In 2011, CARE’s *Adaptation Learning Programme for Africa* (ALP) realised that climate information could be used effectively in planning for agro-pastoral activities, and that this would help reduce drought and climate-related losses. In the *Garissa* district of Kenya, ALP is using *Participatory Scenario Planning* (PSP) workshops as an innovative and inclusive way of communicating seasonal climate information to communities and government departments.

Participatory Scenario Planning (PSP) is a process for collective sharing and interpretation of climate forecasts. PSP is conducted as soon as a seasonal climate forecast is made available by meteorological services, meaning it occurs as many times in the year as there are rainy seasons in that particular area. In a workshop setting over one to two days, meteorologists, community members, local government departments and local NGOs share their knowledge – both local knowledge and scientific information – on climate forecasts. The participants discuss and appreciate the value of the two perspectives and collectively find ways to interpret the information into a form that is locally relevant and useful.

14. Based on the CARE ALP and Canadian Coalition on Climate Change & Development case study “Building multi-stakeholder processes for climate change in sub-Saharan Africa” www.c4d.ca/wp-content/uploads/2013/03/2013-CaseStudy-CARE-Kenya.pdf

During the process, participants consider climatic probabilities (which are an expression of the uncertainty in the climate forecast); assess their likely hazards, risks, opportunities and impacts; and develop scenarios based on this assessment. Discussion of the potential implications of these scenarios on livelihoods leads to agreement on plans and contingencies that respond adequately to the levels of risk and uncertainty. PSP forms part of the adaptation planning process, linking community plans to local government responses and support, as well as to higher level plans.

BOX 2: THE PSP PROCESS

The ALP PSP process involves the following steps:

1. Identify the **meteorological services and forecasts** available for the location where adaptation is being planned and plan the PSP workshop with them and key local actors.
2. Invite participants from a **relevant range of stakeholders**, including meteorological services and local/traditional forecasting experts.
3. **Exchange** seasonal climate forecasts from local and scientific sources.
4. **Discuss and integrate** the forecasts from the two sources.
5. **Participants interpret the seasonal forecast** into three probabilistic hazard scenarios, assessing risks posed by the hazards to develop impact scenarios. **Opportunities** in the coming season are also identified for each scenario.
6. **Participants discuss the local implications** of the impact scenarios considering the status of food security, natural resources, livelihoods and sectors.
7. **Participants discuss and develop actions** for each impact scenario, taking advantage of identified opportunities: What will communities, local government and local NGOs do? How will their actions be mutually supportive and respond to both the current situation and the expected forecast in relation to livelihood and sector priorities?
8. **Develop advisories from** the actions discussed: Locally relevant and actionable information, with agreed responsibilities among local actors.
9. **Communicate advisories** to users, for e.g, through radio, local monitoring, or other institutional systems, religious leaders, chiefs, government departments, local groups, NGOs, media etc.

Promotion of climate-resilient livelihoods strategies

As a result of the PSP workshops held in *Garissa*, communities have been able to make more informed choices about their livelihood activities. For example, a local farmer, after receiving advice at the PSP workshop, chose to plant *green grams* (also known as *Mung beans*) rather than maize (the most popular crop in the area), since it matures more quickly and does not need supplementary irrigation. This resulted in better yields for the farmer, which met his household's food needs as well as generating income from sales of the surplus crop. The PSP workshop also provided some market price information, prompting the farmer to sell his harvest at the local market rather than from his homestead, as was his usual practice. He then sold his crop at almost double the price he would normally receive at his homestead.¹⁵

15. Information from Titus Utungo, District Agricultural Officer, Garissa.

Capacity development for local civil society and government institutions

PSP increases the adaptive capacity of all stakeholders. With a multi-stakeholder platform for dialogue, community members and service providers gain access to forecast information and are able to develop stronger institutional links and coordinated plans that are flexible in responding to the coming season's weather scenarios. Dissemination of this information through local media channels and services makes it accessible to a wide audience.

PSP also enables district government departments to have better access to more localised seasonal climate information and to use it for collective planning. This has resulted in timely support for the communities, especially in terms of passing on information, providing extension services and giving early warning for flooding. In the past, services were limited to emergency measures and provision of relief programmes after extreme events.

Advocacy and social mobilisation to address the underlying causes of vulnerability

The *Garissa Climate Change Working Group* was first formed in 2011 as a taskforce, following the first PSP workshop hosted by ALP. The idea came from the government and civil society representatives at the workshop, in response to the issue of sustaining the multi-stakeholder planning and advisory process beyond the life of this project. Since its formation, services to the community – especially in terms of climate, livelihoods and market information, as well as extension services – have been provided in a more organised and complementary manner. In 2012, the taskforce agreed to include advocacy on climate change issues as part of its mandate and has since been invited to act as technical adviser on climate change to the *Garissa* and *Fafi* District Steering Groups.

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

PSP events and information have inspired actors to learn more about climate information, pay attention to media communications and apply new knowledge to both livelihood and DRR activities. Flood warnings, which were previously not heard or ignored, are now taken seriously, and farmers have been able to minimise losses by harvesting early and protecting assets such as livestock and irrigation equipment. Farmers have taken advantage of receding floodwaters to plant extra crops and have better managed their risks, for example, by deciding in advance what is needed to ensure a harvest, whatever the weather, and to exploit the good seasons.



Beleta Hode has been involved in the GRAD programme for 10 months. "Since taking part in GRAD my family is healthier, I bring value to my household and I share my learning with my uncle's family. We are happier and our future is brighter". © Josh Estey / CARE

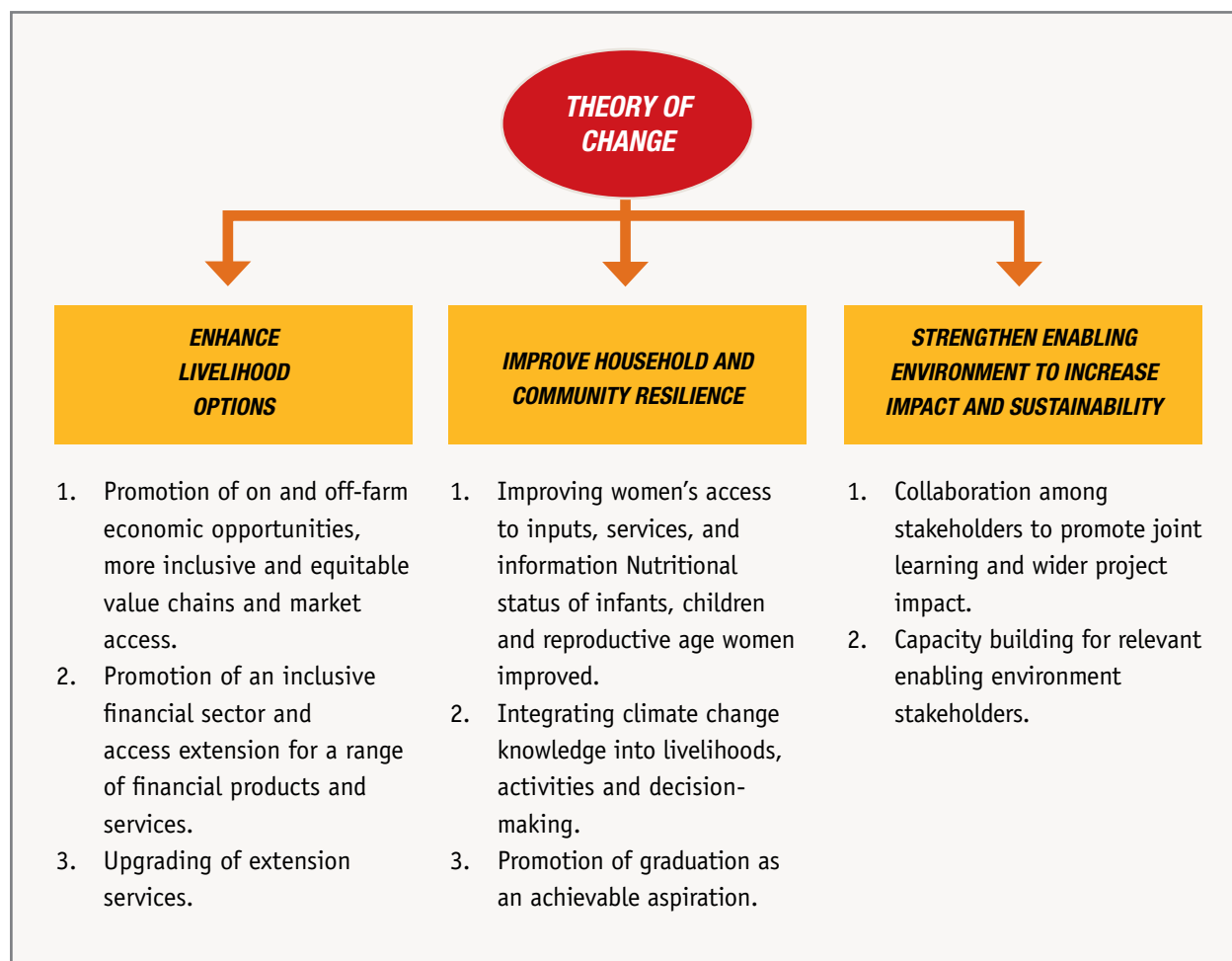
4.4 CBA and resilience-building in Ethiopia¹⁶

The government of Ethiopia's *Productive Safety Net Program (PSNP)* provides food and financial resources to 7.4 million chronically food insecure people to help stabilise their income and assets. In operation since 2004, the *PSNP* works to support rural transformation, prevent asset depletion, encourage household-level production and investment, and promote market development.

16. Based on a project analysis by Angie Dazé with additional input from Karl Deering and CARE Ethiopia.

A CARE Ethiopia-led consortium project, known as GRAD (Graduation with Resilience to Achieve sustainable Development),¹⁷ aims to move households towards graduation from PSNP, through climate-resilient approaches to diversify their livelihoods, build assets and link to financial services and markets.

Figure 6: GRAD programme theory of change



Promotion of climate-resilient livelihoods strategies

Increasingly erratic weather patterns in the highland area of Ethiopia are having a negative impact on agricultural production and household income. Affected households need to develop workable adaptation strategies that do not undermine their primary productive assets. The value chain analysis carried out under the project was sensitive to weather and climate-related risks. For example, one of the original value chain crops selected by project communities – red peppers – was severely damaged by sudden-onset rains, but since the communities had already factored in this potential risk, they were able to rapidly adjust crop selection and livelihood options, without significant loss. Climate risk information is shared with communities and adaptation technologies, such as small-scale irrigation, have been introduced.

17. In collaboration with the government of Ethiopia, CARE is working as consortium lead, together with Catholic Relief Service (CRS), ORDA, Relief Society of Tigray (REST), Agri-Service, SNV and Tufts University.

Capacity development for local civil society and government institutions

The project engages with about 65,000 households, and one important role is to test different implementation strategies and provide learning to interested government stakeholders, particularly the *Household Asset Building Program*. The project identifies, documents and promotes the interventions that offer the best potential for assuring graduation from *PSNP* status, at an acceptable cost. The project also facilitates field visits and seminars for representatives from government and the private sector. A shared learning agenda has been developed to guide additional research into contextual constraints, and different implementation pathways used, to boost positive project outcomes.

Social mobilisation to address the underlying causes of vulnerability

The project is driving an innovative approach to the development of collective organisations, building on local traditions, to establish *Village Economic and Social Associations (VESAs)*. VESAs are the focal point for many project interventions and provide an inclusive environment for building the knowledge and capacities of women and men in savings and credit, financial literacy, small business planning/management, and other economic skills. In addition, VESAs receive orientation and training in a wide range of topics important for their economic activities, including risk management, women's participation and empowerment, and adaptation to climate change.

Building on the VESA loan system, households are also assisted to access longer-term agricultural loans from formal microfinance institutions (MFIs). MFIs did not previously provide services to poor and food-insecure households, but since the project provides loan guarantees to MFIs they are now able to accept poor households as clients. Engaging MFIs and helping them forge lasting relationships with food-insecure households is important because multiple loan cycles are essential for more vulnerable households to access and become established in a market value chain. CARE's *Social Analysis and Action* tool is used to identify social and cultural constraints to food security, such as gendered division of labour and household-level decision-making around access to, and control over, assets.

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

The project's analysis involved hazard mapping, which engages community members in developing community maps, either on flipchart paper or on the ground, using local materials. This process enables the participatory identification of important livelihood resources and hazards (both climate-related and other) affecting, and the coping mechanisms used by, different groups within the community. *Impact chains* are also used to visualise the direct and indirect impacts of hazards on community livelihoods and social fabric. Impact chains help to move communities away from generalised thinking (for example, the impact of drought is famine) to looking into more detail about how and why hazards have different impacts on different parts of the community. This helps to identify strategies that directly address climate-related hazards and any opportunities for, or barriers to, adaptation activities.



5. ASIA AND THE PACIFIC

Bui Thi Din takes care of mangrove saplings to ensure that they are strong enough to withstand strong waves before planting along the coast in Da Loc, Vietnam.
© Sascha Montag / CARE



Number of CARE Climate Change programme initiatives:¹⁸ 28

Bangladesh, India, Indonesia, Laos, Nepal, Papua New Guinea, Thailand, Timor-Leste, Vanuatu, Vietnam

The climate change context for the region:¹⁹

The impacts of climate change on food production and food security in Asia will vary by region. However, many regions are expected to see a decline in food productivity, with the largest numbers of food-insecure people located in south Asia. Overall, studies indicate that crop production will likely shift northwards, with benefits to colder areas and negative consequences to warmer areas. Cereal production in central Asia (i.e. northern and eastern Kazakhstan) could benefit from longer growing seasons, warmer winters and a slight increase in winter precipitation. In contrast, frequent droughts could negatively affect cotton production, increase demand for water for irrigation, and exacerbate desertification in other areas, such as western Turkmenistan and Uzbekistan. Sea-level rise also threatens many Asian coastal areas and is projected to inundate low-lying areas, which would negatively affect rice-growing regions. Fisheries, a major source of livelihoods and protein for many countries, are also likely to be negatively impacted by climate change, especially in south and southeast Asia.

18. Based on information collected for FY2013 through CARE's global annual reporting process.

19. Regional overview is taken from IPCC regional breakdown of projected impacts 2014

http://treealerts.org/wp-content/uploads/2014/03/IPCC_AR5_WG2_Regional_Breakdown_16Mar2014.pdf

5.1 Protecting coastal livelihoods in Thailand²⁰



School children learning about mangrove planting techniques.
© Raks Thai Foundation / CARE

In heavily populated coastal areas of Thailand, high levels of erosion due to environmental degradation are exacerbated by climate change impacts, such as rising sea levels and increased storm surge. The resulting intrusion of saltwater into shallow freshwater areas causes significant change to ecosystems and disrupts the livelihoods of those dependent upon them. Poor people living in coastal areas are also more vulnerable to the increasingly frequent and severe weather events.

In response, Raks Thai Foundation (a member of CARE International), together with CARE International Indonesia, is implementing a three-year project – *Building coastal resilience to reduce climate change* (BCR-CC) – in south Thailand, alongside a sister project in South Sulawesi, Indonesia.

Climate change is intensifying the weather conditions affecting the village of *Tambon Koh Klong Yang*, in the *Koh Lanta* district of south Thailand. The community encounters stronger ocean winds and waves, especially in the monsoon season, which is less predictable and lasts longer than in the previous years. This shortens the fishing and rubber-harvesting season in an area where agriculture and fisheries are the main source of income.

Government policy permits the deforestation of mangrove forest, but this has led to the use of mangrove wood as firewood and the expansion of tiger prawn farms. This, in turn, has reduced the populations of many marine organisms. This has a serious impact on local fisher folk, reducing their catch and therefore impacting on their food security, as well as their livelihoods. Environmental degradation poses a critical threat to the livelihoods of the villagers, since they do not own land and so have no alternative options for income-generating activities.

Capacity development for local civil society and government institutions

CARE project staff along with government and community representatives conducted a participatory *Climate Vulnerability and Capacity Analysis (CVCA)* to better understand the impacts of climate change on the communities and their existing adaptation strategies. They used participatory rural appraisal tools, for example a seasonal calendar, hazard mapping and daily activity plans. Based on their findings, adaptation projects were designed together with the communities and local government. A feasibility study was conducted to ensure that the proposed interventions were sustainable and equitable. Additionally, local government representatives were trained in adaptation budgeting in order to integrate good practice in adaptation into their regional development plans.

Promotion of climate-resilient livelihoods strategies

The communities decided to initiate the restoration of mangrove forest in a deserted prawn farming area after the risk analysis activities revealed mangrove deforestation as the underlying cause of many of their livelihood issues. Plants and marine life were rehabilitated once the mangroves were planted and the area allowed to be naturally flooded with seawater. The crucial process was to encourage positive collaborative partnerships between community members, local non-profit organisations, local government agencies and mangrove management-related administrative offices.

20. Based on the work of the Raks Thai Foundation - *Building coastal resilience to reduce climate change impact in Tambon Klong Yang, Amphur Koh Lanta, Krabi province, Thailand*, WeAdapt <http://weadapt.org/placemarks/plain/view/1110>

The cultivation of additional mangrove trees is now being considered, which will require the cooperation of all of these groups, since the water flow system will once again need to be adjusted.

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

The community now recognises that abundant mangrove forests serve as natural barriers to prevent the erosive impacts of ocean waves, winds and storms, and facilitate safer boat landings. The rehabilitated coastal areas will serve as a source of food and natural resources for the local population in the long term, if used sustainably.

The Raks Thai Foundation organised a short film competition for primary school students about climate change adaptation in their villages. In addition, the community has now developed hands-on learning tools, and, in cooperation with *Baan Klong Yang School*, they have established a learning centre to pass their knowledge to young people in the community and raise their awareness of natural resource restoration and management.

Advocacy and social mobilisation to address the underlying causes of vulnerability

Students, community members and tourists participated in a community event to plant mangroves. This strengthened local ownership and created awareness of the need to protect the mangrove zone. The community and local government developed a local regulation about the use of the mangrove forest area. This regulation was presented in a village meeting to which neighbouring villages were also invited. Coastal inhabitants from nearby areas are therefore also informed about the benefits of the mangrove forest in protecting coastal livelihoods. In fact, the new regulation is written up on a billboard, clearly visible to everyone.



Fishing along the Northern char lands, Bangladesh. © Agnes Otzelberger / CARE

5.2 CBA and disaster risk reduction in Bangladesh²¹

Bangladesh, due to its geophysical position and socio-economic context, is highly vulnerable to regular natural hazards and the impacts of climate change. Riverine *char* lands (sand bars), among other eco-systems of the country, are considered hotspots for climatic hazards.

Through its *Strengthening Household Ability to Respond to Development Opportunities (SHOUHARDO II)* programme, CARE Bangladesh and partners²² have been working on improving the adaptive capacities and resilience of char dwellers to disaster and climate change impacts. An integrated CBA/DRR (disaster risk reduction) approach, which combines traditional knowledge with innovative strategies, has been adopted to address current vulnerability while building adaptive capacity to face new and dynamic challenges.

21. Based on the work of Palash Mondal, 'Integrating Disaster Risk Reduction and Climate Change Adaptation into Development Program: Experiences from Northern Chars in Bangladesh' - CARE internal paper.

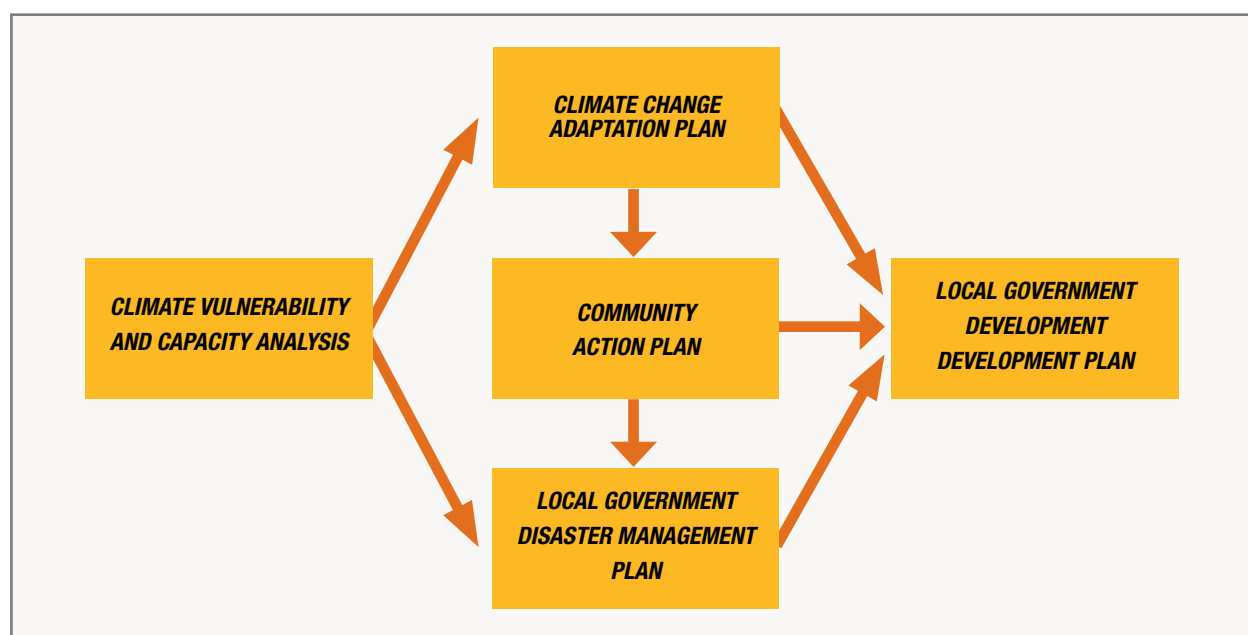
22. The programme is implemented through local and national-level partner NGOs, with technical support from CARE Bangladesh and several specialised agencies, in association with 13 line ministries.

Capacity development for local civil society and government institutions

The project started with an analysis of community vulnerabilities and capacities using the participatory Climate Vulnerability and Capacity Analysis (CVCA). Through this process, local government representatives and communities increased their awareness of climate-related and other types of risks, and were able to propose some adaptation plans and activities. The project has developed, and is constantly updating, a menu of diverse good practices in adaptation and disaster risk reduction to guide the field-testing of community-prioritised activities.

Participatory extension support has been key to the success of this project, this includes demonstration plots, farmer orientation meetings, field visit days and courtyard discussion sessions. The proposed adaptation and DRR activities were also linked to community plans, relevant service providers, and government planning processes (see figure 7).

Figure 7: Integrating CBA into DRR planning processes in Bangladesh



In *Char* areas, the project promotes low-cost measures that households and communities can maintain themselves, such as simple agricultural technologies/tolerant crop varieties, infrastructure development, energy efficient technologies and local/traditional resource management practices.

Promotion of climate-resilient livelihoods strategies

The project promotes crop diversification, the use of tolerant crop varieties and sustainable agricultural practices (i.e. composting, mulching/water retention techniques, pest management, improved pit and bed system, line sowing and floating beds). It also promotes diversification of income sources through various livelihood options, e.g. duck rearing, improved pond fishery, vegetable farming, nurseries, etc. The use of energy efficient technologies has been encouraged, especially improved cook stoves for the poorest households. An improved stove can contribute to household income, women's health improvements, household safety and women's empowerment.

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

Infrastructure development schemes (that mitigate the effects of disasters and climate change) include: constructing flood shelters within schools, homestead plinth-raising, community ground raising, the construction of a community

resource centre and improving drainage. Other activities include building community capacity through equipping local disaster management committees, disaster volunteers and students with knowledge and equipment (e.g. uniforms, megaphones, torches, lifebuoys, first-aid kits). The project is also supporting the development of an early warning flood forecast through partnership with RIMES (the Regional Integrated Multi-hazard Early Warning System for Africa and Asia).²³

Advocacy and social mobilisation to address the underlying causes of vulnerability

The success of adaptation efforts at individual, household and community levels relies heavily on the existence of an enabling environment for adaptation. This enabling environment consists of government and civil society institutions (at national, district and local levels), with their respective mandates, capacities and policies for identifying and managing climate-related risks. These typically include institutions responsible for disaster preparedness and recovery, environmental protection and management, as well as economic development – agriculture, natural resources, renewable energy and related infrastructure.

The project aims to build institutional capacity and public awareness by providing training and the support necessary to develop local disaster plans that analyse risk and capacities, and to integrate DRR/CBA practices into regional and national development plans. Advocacy activities have tried to amplify the voices of the most vulnerable in regard to disaster and climate change risk management, with a particular focus on land rights, access to common resources, and the inclusion of marginalised groups in decision-making platforms.

5.3 From slave to community leader in Nepal²⁴



Indra Kumari Tharu sharing her experience during a large public event in Bardiya, Nepal. © Hariyo Ban project staff / CARE

“My name is Indra Kumari Tharu. I was born into a family of Kamaiyas (bonded labourers/slaves) in Ramnagar, Bardiya district of Nepal, 40 years ago. We became free from our landlords with the declaration of abolishment of the Kamaiya Pratha (bonded labour/slavery system) on 17 July 2000, by the government of Nepal. However, we were yet to be free from poverty, illiteracy, unemployment and archaic customs of an oppressive patriarchal society.

“Initially, I was quite lucky compared to most of my neighbours, as I soon found employment with the Family Planning Association – first as a community mobiliser and then as a female health volunteer. I was also elected as a member of the executive committee of the Women’s Community Forest User Group (CFUG) in Daulatpur and, a year later, was elected their chairperson. However, I was forced to quit these positions after a while, since I felt extremely demoralised. I would often receive derogatory and defamatory remarks and harassment from people, especially when I was trying to raise awareness about family planning and reproductive, maternal and child health. In a strict patriarchal society like ours, it’s considered very shameful for

23. For more information, see www.rimes.int

24. Based on the work of Shweta Dhoubhadel, Monitoring & Evaluation Officer, and Arun Adhikari, Field Coordinator, Hariyo Ban Programme, CARE Nepal, in interview with Indra Kumari Tharu.

women to go outside the domestic sphere, earn a living or speak with strangers in public. Since my job required all of these activities, as well as talking about sex and reproduction, a taboo subject, I was ostracised from my community.

“For a number of years I was then confined to the role of a homemaker, but when I was offered the opportunity to participate in the development of a Community Learning Action Center (CLAC) in 2012,²⁵ I once again mustered the courage to step outside my domestic sphere to seek a better future for my family and community.”

Capacity development for local civil society and government institutions

“I received leadership and governance training from CARE, following which I was able to reactivate the board of our women’s forestry group. Our aim is to conserve the forest area and allocate its resources for the benefit of the most vulnerable members of our community. Through CLAC, I have also been involved in different local development activities. For example, one day at CLAC we were discussing the need for proper toilets in order to improve sanitation and hygiene, and reduce the prevalence of diseases (a problem that can be made worse by the impacts of climate change), avoid snakebites and improve women’s security and privacy. To set an example, I first built a toilet at my home, then, together with my colleagues from CLAC, we conducted a door-to-door awareness campaign on the need for better sanitation and toilets. Today, each household in our village has a toilet of some sort – some are temporary pit latrines for use until families can afford to construct a more permanent facility.”

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

“Our village suffers from floods and erosion from the Karnali River, threatening our lives and destroying our fields and homes. The flooding has become more and more severe in recent years and I learned in CLAC that this could be due to the adverse impacts of climate change. To minimise this hazard and adapt to the changing climate, we have now developed a Community Adaptation Plan of Action (CAPA) with the support of the CARE project team. As part of implementation of the CAPA, we have already installed embankments and level-checking dams along the banks of the river, and have planted bamboo and different tree saplings, to try and improve the soil structure and drainage.”

Advocacy and social mobilisation to address the underlying causes of vulnerability

“I received some land from the government after we CLAC women participants took the initiative and visited different government agencies and non-profit organisations to finally make the government keep its promise of providing land certificates to freed Kamaiyas families in our community. We are now working on leveraging other resources from different government agencies and other non-government organisations to implement other adaptation activities listed and planned under the CAPA, with the support and guidance of the CARE project. Through this experience, we have gained the confidence and knowledge to approach government and development agencies and begin to implement projects on our own.”

Promotion of climate-resilient livelihoods strategies

“I am now rearing two pigs, twenty chickens and four goats, as well as growing crops and vegetables on my land. I am able to meet my household’s daily expenses as well as send my two daughters and my son to English language boarding schools with the earnings I make from my livelihood activities. Following my example, many other families in my village have also sent their children, including girls, to school and more women are participating in income-generation activities. Other women and I have also started to gain a higher status and more respectful treatment from our community, which gives me hope for the future, and of seeing a more equitable society for marginalised groups and women.”

25. As part of the Hariyo Ban programme, implemented by CARE Nepal.

“With these positive developments in our community, people, even those who used to call me derogatory names, now acknowledge me as a leader and seek my advice. This has made me very happy and encouraged me to seek more positive transformations, not just in my village, but also in other marginalised communities in Nepal. I have been participating in different local and national platforms to share my experiences, which has boosted my confidence and together with the women’s group, formed through the CLAC; I believe we can really make a difference.”

5.4 A methodology for CBA planning in Vietnam²⁶



Women from four villages in Khanh Binh commune, An Phu District, discuss existing livelihood activities as part of the resilient livelihood study.
© ICAM project staff / CARE

The overall aim of the *Integrated Community-based Adaptation in the Mekong Delta (ICAM)* project is to increase the resilience of communities in the Mekong Delta to the unavoidable impacts of climate change. The project targets the most vulnerable people – specifically landless and land-poor people, with a particular focus on minority ethnic groups such as the *Cham* and *Khmer*, living in five communes in the provinces of *Soc Trang* and *An Giang*. In close collaboration with partners,²⁷ the project is building local capacity to carry out improved gender-sensitive analysis and planning for CBA. In addition, it is providing support for the implementation of disaster risk reduction (DRR) measures and climate-resilient livelihoods, and strengthening civil society in the Mekong Delta.

In order to produce community-based adaptation plans, the project wanted to use CARE’s various good practices and proven tools such as the *Climate Vulnerability and Capacity Assessment (CVCA)* manual; the *community Visioning* tool and programme experience on integrating CBA with disaster risk reduction in development planning. Combining these approaches, however, proved to be quite a challenge, for partners as well as project staff. It was jointly agreed to put the project activities on hold for a few weeks and develop a simple step-by-step CBA planning methodology.

First the project team identified components that overlapped between the different tools. Then each one of them was put together in a logical step-by-step process aligned with government planning processes, in particular socio-economic development and community-based disaster risk management planning. As the CBA planning approach has to be adopted and replicated by local government representatives in different settings, the methodology takes into account the time and human resources available within government and project partners.

Before detailing each step, the entire process was discussed with project partners. Agreement on the key practical steps to be followed in the early phase of the methodology development was absolutely vital. After an agreement was reached, the CBA planning process was detailed step by step, through the drafting of a *CBA planning manual*. All related tools and other materials required to carry out the process were also added.

26. Based on the work of CARE International in Vietnam, *CBA Planning Manual*, 2014 (not yet published).

27. Project partners include: The Women’s Union of An Giang, Women’s Union of Soc Trang, and the Center for Rural Communities Research and Development (CCRD). ICAN is an Australian aid project, funded by the Australian Department of Foreign Affairs and Trade.

The manual has now been tested in the project, revised, finalised and shared with NGOs, civil society organisations, donors and government bodies in the wider climate change adaptation community. It is hoped that this resource will greatly contribute to improved sharing and knowledge management on CBA in Vietnam and the region as a whole.

Figure 8: Process steps from the CARE Vietnam CBA Planning Manual

CARE CBA planning process - flow chart			
	STEPS	ACTIVITIES	RESULTS
STEP 1	CC/CBA ORIENTATION FOR PROVINCIAL AND DISTRICT AUTHORITIES	<ul style="list-style-type: none"> ✓Orientation sessions on CC, CBA and gender ✓Consensus building on CBA planning process 	<ul style="list-style-type: none"> - Improved understanding amongst province and district local authorities on CC, CBA and gender - Approval and commitment of local authorities to CBA planning steps
STEP 2	ESTABLISHMENT OF CBA TASKFORCE	<ul style="list-style-type: none"> ✓Establishment and approval of CBA taskforce ✓Selection of potential CBA trainers 	<ul style="list-style-type: none"> - Established group of the main CBA decision makers in the province - A gender balanced list of potential CBA trainers
STEP 3	CBA TRAINING OF TRAINERS (TOT)	<ul style="list-style-type: none"> ✓Training on climate change and DRR ✓CBA planning process + tools; ✓Training and facilitation skills 	<ul style="list-style-type: none"> - A group of qualified gender balanced CBA trainers from the province, district (and commune) level that will lead step 4 to step 9
STEP 4	CC/CBA ORIENTATION FOR COMMUNE AND VILLAGE AUTHORITIES	<ul style="list-style-type: none"> ✓Consensus on CBA planning process ✓Selection of CBA facilitators 	<ul style="list-style-type: none"> - Improved understanding amongst commune and village local authorities on CC (including gender) and CBA - Approval and commitment of local authorities to CBA planning steps
STEP 5	TRAINING OF CBA PLANNING FACILITATORS	<ul style="list-style-type: none"> ✓Training on CBA planning process + tools; ✓Facilitation skills; ✓Field testing of CBA tools 	<ul style="list-style-type: none"> - A group of qualified gender balanced CBA facilitators from the commune and village that will help the CBA trainers facilitate step 7 and 8 (village and commune CBA planning)
STEP 6	DEVELOPMENT OF CBA PLANNING WORK PLAN	<ul style="list-style-type: none"> ✓Developing work plan for step 7 to step 9 	<ul style="list-style-type: none"> - A detailed work plan, including time schedule, jointly developed by the CBA trainers and CBA facilitators to carry out the village and commune plan
STEP 7	VILLAGE CBA PLANNING	<ul style="list-style-type: none"> ✓Secondary data collection + CVCA exercises ✓Visioning and village CBE plan ✓Documentation 	<ul style="list-style-type: none"> - Village CBA planning reports, including CVCA report, a common village vision and a gender responsive inclusive village CBA plan
STEP 8	COMMUNE CBA PLANNING	<ul style="list-style-type: none"> ✓Present village CBA plans, commune SEDP ✓Developing commune CBA plan ✓Discuss mainstreaming into SEDP 	<ul style="list-style-type: none"> - Commune CBA planning reports, including a gender responsive inclusive commune CBA plan and recommended follow-up actions for mainstreaming into the commune SEDP
STEP 9	DISTRICT CC MAINSTREAMING WORKSHOP	<ul style="list-style-type: none"> ✓Present commune CBA plan + district SEDP ✓Orientation on CC mainstreaming ✓Discuss mainstreaming into district SEDP 	<ul style="list-style-type: none"> - Improved understanding of the CBA taskforce on CC mainstreaming into SEDP and the results of the CBA planning - Agreed follow-up actions for mainstreaming into SEDP/sectoral plans
STEP 10	IMPLEMENTATION OF CBA ACTIONS	<ul style="list-style-type: none"> ✓Discussion by Government, communities, mass organisations, CSOs, NGOs, etc about implementation 	<ul style="list-style-type: none"> - Implementation of commune and village CBA plans

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

The project has now completed gender-sensitive and inclusive CBA planning in all project villages and communes, with government approval of recommended community-led adaptation activities integrated into commune and district DRR and development plans. A pool of government representatives from provincial, district, and commune-level offices have been trained in CBA planning, in alignment with government climate change and DRR planning processes. Swimming skills training, a flood warning system, child safety information and tree planting for the prevention of soil erosion are just some of the activities being jointly funded by the project and government.

Promotion of climate-resilient livelihoods strategies

The project has also completed a comprehensive action research study on climate resilient livelihoods. This has resulted in a draft methodology (not yet published) for identifying livelihood strategies that are climate resilient, and a range of support options for target beneficiaries in *An Giang* and *Soc Trang* provinces. The project, through local partners, provides support for organic eel raising, organic indoor mushroom farming, onion-waste based bio-fertiliser production, drip irrigation techniques, bio-bedding for pig manure management, floating food gardens and chilli growing.

In addition, to help diversify income and enhance income security, a provision of microfinance for climate change adaptation activities is now available through customisation of the existing Women's Union credit system, which can now extend its reach to more women, including minority ethnic women and disabled women. These women, who previously had to rely on risky informal loans, now have access to a reliable source of finance.

Advocacy and social mobilisation to address the underlying causes of vulnerability

Project activities are also raising the voices of vulnerable *Cham* women and men, living on boats or in unprotected houses on the river, through innovative community digital photo story telling. This is a community-driven project that allows people to tell their own stories about inequality, climate change and social marginalisation through videos made using photographs and narration.

Capacity development for local civil society and government institutions

The project has enhanced civil society networking, information-sharing, learning and collaboration on climate change through the joint establishment and operation of the Southern Climate Change Working Group. This group brings together Vietnamese civil society, international NGOs, research institutes and bilateral funding organisations.



6. LATIN AMERICA AND THE CARIBBEAN

A weather station in the Cordillera Blanca (White Mountain) region of Ancash, Peru. © PRAA project staff / CARE



Number of CARE Climate Change programme initiatives:²⁸ 26

Bolivia, Brazil, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Peru

The climate change context for the region:²⁹

The Central and South American region is increasingly exposed to pressures related to expanding land-use change, industrialisation and a growing need for food. Deforestation and land degradation also exacerbate the negative impacts of climate change and are leading to environmental degradation throughout the region. Climate change is expected to affect agricultural productivity, which would have significant consequences for food security in some parts of the region. Climate change has the potential to severely affect the poorest populations and their food security by increasing the current rate of chronic malnutrition. Currently, Guatemala is the most food insecure country in the region by percentage of the population (30.4%) and the problem has been worsening in recent years.

28. Based on information collected for FY2013 through CARE's global annual reporting process.

29. Regional overview is taken from IPCC regional breakdown of projected impacts 2014 http://treealerts.org/wp-content/uploads/2014/03/IPCC_AR5_WG2_Regional_Breakdown_16Mar2014.pdf

6.1 Protecting high mountain wetlands in Ecuador



Restoration of Páramo native vegetation near Papallacta, Ecuador.
© Andrés Cordova / CARE

The parish of Papallacta is located at the foot of the Antisana glacier, and is surrounded by high mountain wetlands or *páramos*. The Antisana Reserve and the Papallacta headwaters supply 30% of the drinking water for Ecuador's capital city, Quito. The long-term management of these high mountain wetlands is, therefore, critical for Quito's water supply and for the wellbeing of communities whose livelihoods depend on them.

Advocacy and social mobilisation to address the underlying causes of vulnerability

Between 2009 and 2013, CARE worked as a strategic partner for the government of Ecuador as part of a Latin American regional project – *Adaptation in Communities Facing Rapid Glacier Retreat*³⁰ – in Ecuador, Peru and Bolivia. Although the project was run by *Comunidad Andina de Naciones* (CAN), the regional integration institution for Andean countries, it took a long time to start the implementation phase of the project. However, working with national and local partners, CARE was able to get an early start, allowing it to try out innovative practices in CBA and to share outcomes with local, national and regional government stakeholders. Papallacta was chosen as one of the communities where the project could test out various natural resource management and wetland farming adaptation measures.

Capacity development for local civil society and government institutions

The community of *Papallacta* depends mostly on agriculture and livestock production for their livelihoods, but these are being affected by an increase in the frequency of periods of frost and heavy hail. Following the application of community-based vulnerability assessment tools, including the CVCA, CARE worked with the community and local partners to design and implement a range of suitable adaptation measures, including:

- community training in home gardening techniques to enhance the resilience of subsistence farming
- the establishment of more environmentally sustainable livestock systems
- introduction of water harvesting techniques to suit the local cloud conditions (e.g. through the installation of *fog fences*³¹)
- the introduction of a participatory water monitoring system
- the development of agroforestry plantations to protect ecosystems and water sources
- local land use planning to designate conservation areas, biological corridors and wetlands
- the creation of a Wildfire Prevention Plan for the *Páramo*.

30. Known as the 'PRAA' - Proyecto de Adaptación al Impacto del Retroceso Acelerado de Glaciares en los Andes Tropical http://www.comunidadandina.org/cooperacion_praa.aspx

31. Using large pieces of vertical canvas to make fog condense into droplets of water and flow down towards a trough below the canvas.



Students from Papallacta learning how to grow and tend vegetables used in school lunches to improve nutrition. © Silvia Vallejo / CARE



Women working on hotbed gardens in Papallacta, Ecuador. © Silvia Vallejo / CARE

During the initial vulnerability assessments, it became clear that the community was particularly vulnerable to short-term climate variability, as frost and hail events would regularly destroy crops. Addressing these current climate risks was seen as the best way to lead into the management of longer-term risks, as posed by climate change and glacier retreat. By building resilient livelihood strategies, the project has shown some positive results in crop productivity and yields from using simple agroforestry techniques that are easy to implement at a low cost, such as using wind breaks, or by raising home gardens on to hotbeds. Hotbeds are raised fields that are protected under a greenhouse roof, which helps to reduce crop loss and soil erosion during extreme weather events.

The design and management of the home gardens has helped to address gender equality issues in the community, in particular in terms of access to land by women, and food and nutrition security. Women were suffering the most from crop losses due to hail and frost, since they are responsible for household food production. By providing women with resources and technical assistance to develop their house gardens and greenhouses, they have improved their contributions to family income, while at the same time improving food security.

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

Although restoring high mountain forests is quite a long-term adaptation process, the implementation of improved forestry techniques has already helped to increase sapling survival rates, contributed to forest soil enrichment and improved the wetlands through better infiltration and water storage. The introduction of new water harvesting techniques (e.g. using fog fences) also provides a viable, long-term alternative to drawing upon traditional water resources that are already dwindling due to the glacial retreat.

In order to raise community awareness of the importance of managing highland wetlands, a participatory water monitoring system was developed in *Papallacta*. This provides universal access to piped water in the community, which, ironically, previously had limited access to safe water, in spite of being the source of 30% of Quito's water supply. The project then worked with youth organisations and other members of the community to manage the main springs, and to regularly monitor the quality of the community's water supply. The long-term benefits of the sustainable management of the *páramo* will benefit both the community of *Papallacta* and the downstream users of water in the metropolitan area of Quito.

6.2 Sustainable livestock production in Cuba



A bullock in Camagüey, Cuba. © Carol Foil / flickr.com / creative commons

Camagüey province is the driest region of Cuba, and the impacts of climate change are making it drier. This area will most likely experience recurrent drought, which is forcing agricultural and livestock farmers to change their practices. CARE developed this project together with the Cuban Association of Livestock Production (ACPA) and the Meteorological Society of Cuba. CARE is working with communities, local livestock cooperatives and national government representatives to help Camagüey livestock farming communities adapt to the changing climate.

The project identified three main objectives:

1. Create risk reduction strategies for livestock producer cooperatives through a tailored **climate forecasting system**.
2. Build the capacity of cooperative members in order to improve their **assessment of risk and knowledge of potential adaptation activities** that are appropriate for the local (dry) soil conditions.
3. Improve community access to **climate information and vulnerability assessments** in order to improve the cooperative's ability to adapt to a changing climate and ensure that their livestock production is sustainable in the long term.

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

The project carried out a vulnerability assessment using CARE's *Community Vulnerability and Capacity Assessment (CVCA)* tool. This enabled the project team, together with partners, to define priority interventions as well as to draft a disaster risk reduction (DRR) plan for each of the eight livestock cooperatives in the Camagüey province. The project helped to finance up-to-date meteorological instruments for the Provincial Meteorological Centre, also used by the technicians of the cooperatives, to better manage climate forecasts and understand agro-meteorological applications. Members were then trained in the use of a monitoring and early warning system for drought. The project also helped producers affiliated to the cooperatives to adopt more resilient crop-production methods, through the introduction of agro-forestry systems and the planting of tree nurseries, fruit trees and fodder.

Promotion of climate-resilient livelihoods strategies

The project has used two main strategies to promote resilient livelihood practices and build the adaptive capacity of the livestock farming communities. These are:

1. **The promotion of climate-appropriate systems that impact more positively on the environment:**
 - sustainable agroforestry systems established at the eight participating cooperatives
 - the creation of forest tree nurseries, for reforestation, and fruit tree cultivation to diversify fodder and income sources
 - the establishment of fodder banks, to avoid waste in livestock feed
 - rationed water-consumption for farmers and livestock, and the promotion of water-saving technologies, wells and rainwater harvesting techniques
 - creating a source of renewable energy through the installation of windmills
 - improving soil structure and fertility through the application of bio-fertilisers (and vermicomposting) and the reforestation of areas with recommended native species.

2. Increased production and income generation:

- increasing yields through the introduction of new management methods, since most of the cooperatives used to be state-run farms with limited access to technology and resources
- these management methods encouraged women's leadership and improved working conditions for women employees by providing fuel-efficient and safe stoves for households and women-only toilets at each cooperative
- improving fodder production and better management of cattle to reduce heat stress in animals (one of the main causes of productivity loss). By providing shade, through the introduction of trees, the project hopes to reduce the exposure of cattle to the sun
- fencing to protect crops from animal intrusion
- diversification of livelihood activities, including small-animal husbandry (rabbits, sheep, goats, poultry) primarily carried out by women in the homestead.

Capacity development for local civil society and government institutions

Cooperative members, local partners and government representatives were trained in weather monitoring and sustainable livestock production techniques. Four workshops were organised to reflect on the vulnerability analysis process (using CARE's CVCA tool) and to train local partners in adaptation activities and techniques. A workshop with the Meteorological Institute trained cooperative staff in agro-meteorological monitoring. As a result of this training:

- staff cooperatives now manage local weather stations to predict weather patterns and propose responsive adjustments in agricultural practices to managers
- the provincial meteorological centre manages climate information, which now allows weather modelling predictions to be provided on a much more local scale
- farmers are engaged in innovative and sustainable farming practices, including improved fodder production, rotation of grazing areas, more efficient water use and irrigation, and livestock husbandry.

Advocacy and social mobilisation to address the underlying causes of vulnerability

The recognition that gender inequality limits the sustainability and efficiency of livestock production, particularly in relation to cooperative membership and leadership, and the formal acknowledgement of women's roles in livestock and fodder production, enabled the communities to discuss labour division and women's empowerment activities as part of building community adaptive capacity.

In addition, the new community-level understanding of climate change impacts, and weather monitoring and prediction techniques, is enabling more informed decision-making around agricultural and livestock-rearing practices. The exchange of knowledge between meteorological specialists and local producers has fostered collaborative learning relationships, and quickly facilitated the adoption of new technologies and skills.

6.3 Using traditional knowledge in Nicaragua³²

The geographic location and landscape of Nicaragua makes it highly vulnerable to disasters such as hurricanes, floods, landslides, earthquakes, wildfires, droughts, tsunamis and volcanic eruptions. Ecosystems are under great pressure from deforestation, soil erosion, sedimentation and contamination from human activity.

32. Based on a case study by CARE Nicaragua, 2014, Argeñal, D. *Armonización del Conocimiento Indígena y Local: "Un camino hacia la resiliencia comunitaria e institucional."*

Partners for Resilience is a global consortium project, with member organisations including CARE, the Red Cross Climate Centre, Cordaid, and Wetlands International. The consortium as a whole seeks to integrate climate change adaptation (CCA) practice with both disaster risk reduction (DRR) and the sustainable management of ecosystems through natural resource management (NRM) approaches.

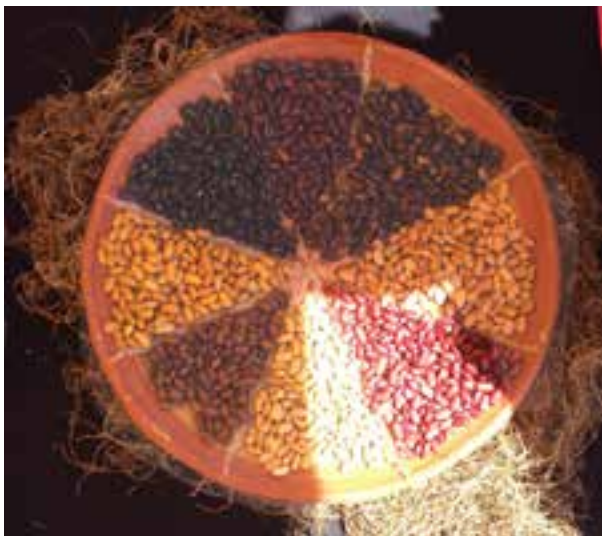
Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

In Nicaragua, the Partners for Resilience (PFR) project integrates traditional knowledge on biodiversity and local DRR practices to improve the adaptive capacity and resilience of communities during cyclical periods of drought and flooding. The table below outlines the traditional practices and processes that have proved extremely useful in engaging communities around livelihoods, risk management, restoration of the natural ecosystem and building adaptive capacity in the face of climate change.

Using traditional knowledge for adaptation, disaster risk reduction and natural resource management in Nicaragua

Traditional Practice	Description	Thematic Area		
		DRR	CCA	NRM
The recuperation and conservation of native seeds	There are local native maize and bean varieties that are more resistant to drought, flood and pest. The creation of a native seed bank to register and store local varieties. Exchange of materials and successful experiences.	X	X	X
Interpretation of signs from nature	Forecasting untimely rains during the dry season through: the observation of the behaviour of animals, birds and insects; the observation of trees (loss of leaves, early or late flowering, loss of fruit); and shifts in wind and rainfall patterns, among others.	X		X
Oral transmission of traditional knowledge	This practice facilitates inter-generational dialogue, which enables an effective transmission of traditional knowledge about the community's environmental, agricultural practices in a changing climate.	X		X
Alternative food sources and natural medicine	Collection of recipes and promotion of the nutritional values of native plants. Plant classification and the registering of herbal remedies for the treatment of a variety of ailments.		X	X
Soil and water conservation techniques	Forest conservation through the maintenance of gallery forests along rivers; slope stabilisation in aquifer recharge areas; knowledge of small-scale or micro-irrigation through rainwater harvesting; crop diversification; establishment of dykes; use of natural insecticides and biological pest control.	X	X	X
Cultivation methods (agro-ecology)	Traditional indigenous practices incorporated the respect for natural cycles and the wise use of biodiversity. Improved practices in house gardens through diversified crop associations and the management of forests and rivers.			X

Key:
 DRR: Disaster risk reduction
 CCA: Climate change adaptation
 NRM: Natural resource management



Local varieties of bean, northern Nicaragua.
© Zenia Nuñez / flickr.com / creative commons

Promotion of climate-resilient livelihoods strategies

For 18 years, the community of *Río Arriba Inali* has run one of the most successful seed banks in Nicaragua. Over time, they have managed to select and conserve the varieties of crop best adapted to the local conditions and most resilient to a changing climate (due to shorter growing cycles, greater resistance in spite of lower overall yields). As a way of building on this local knowledge, the PfR team in CARE Nicaragua helped create a local farmer field school where this sort of information could be shared and developed. At the farmer field school, tests were carried out on the yields of different bean varieties (native versus commercial). The native varieties were found to be better adapted to climate variability and poor soils, and required fewer inputs such as fertilisers and pesticides.

Capacity development for local civil society and government institutions

The PfR project is partnering with government representatives to develop a climate adaptation strategy for the region. PfR also works in schools and universities, teaching young people about environmental and climate-related risks and what they can do to reduce them.

The upstream and downstream communities of El Castillito and Moropoto in Nicaragua tried game playing as a fun and effective way to promote learning about climate change adaptation, disaster risk reduction and sound ecosystem management.³³ With their neighbours, friends and PfR partners, community members played a game in which players representing upstream and downstream communities made decisions about growing crops, protecting assets and feeding their families – all while managing the risk (represented by dice) of floods and drought. The dialogue that followed the game was rich with observations about the players' risk-management strategies and the decisions they make in the complex context of real life.

Advocacy and social mobilisation to address the underlying causes of vulnerability

The region of northern Nicaragua, where the project has been working, is characterised by a dry tropical climate and marked by unsustainable land use practices, such as livestock production on steep slopes, planting crops ill-adapted to soil conditions and poor water source management. By combining traditional knowledge with sound land management techniques, the Partners for Resilience Project has been successful in reversing the process of land degradation through community-led social mobilisation and conservation activities, and the building of local coalitions to address the underlying drivers of climate risks.

33. For more details, see www.partnersforresilience.nl/countries/nicaragua

6.4 Preparing for glacial lake outbursts in Peru³⁴

Peru has one of the largest concentrations in the world of tropical glaciers. Most of these are located in the *Cordillera Blanca* in *Ancash*, in northern central Peru. These high mountain ecosystems have always been prone to major geophysical events, such as the 1970 *Ancash* earthquake, which triggered a glacial lake outburst flood and debris flow that destroyed the town of *Yungay*, leaving 20,000 dead. With climate change, many of these glaciers are retreating fast and the glacial lakes they leave behind are highly unstable and constitute a growing threat to populations in the valleys below.

In an attempt to avoid another tragedy like *Yungay*, the Peruvian government and the Swiss Development Cooperation, together with CARE Peru and the University of Zurich, initiated a project aimed at improving national and local capacities for monitoring mountain glaciers and associated lakes, and designing early warning systems for vulnerable communities located downstream. CARE Peru and partners focused on reducing vulnerability and on risk reduction strategies, including women's empowerment, strengthening livelihoods and building adaptive capacity in *Santa Teresa*, in *Cusco*, and *Carhuaz*, in *Ancash*.

Capacity development for local civil society and government institutions

Santa Teresa is a community located in a hazardous landscape, in a watershed area fed by glacial melt waters. Here the project team worked with communities, and national and local partners, to design a risk management system that includes a radio communication system to provide an early warning for flash floods in this micro-watershed area of the *Sacsara River*.

The project helped the *Municipality of Carhuaz* to strengthen its capacity to manage future risks through the creation of a *Water Resources Management Committee*. This group helps with interagency coordination of water users and the government institutions that have decision-making power, thus increasing their effectiveness and reducing conflict between stakeholders.

Figure 9: Map of potential debris flow near the town of *Carhuaz*, *Ancash*, *Peru*



In *Carhuaz*, the project also helped to facilitate technical and scientific cooperation between Peruvian institutions and Swiss experts in the monitoring and modelling of glacial retreat. The modelling of different flood scenarios helped local authorities to identify potential hazards, through the mapping of debris flows (see figure 9). These maps led to the development of an early-warning system for glacial outburst floods, with planned evacuation routes and disaster responses. Through these activities, the project is building local capacities to adapt to a changing environment and manage emerging risks from the impacts of climate change on tropical glaciers.

34. Based on the work of CARE Peru: *Proyecto Glaciares, Resumen de Resultados*.



School children practice their emergency response in Carhuaz, Peru.
© PRAA project staff / CARE

Disaster risk reduction strategies to reduce the impact of hazards on vulnerable households

Community-based multi-stakeholder platforms have improved risk management in *Santa Teresa* by integrating adaptation and risk-reduction activities into community and municipal development plans. The project also works in local schools to develop disaster contingency plans, which increase the awareness of risk management and response among faculty and students. By training local leaders, both women and men, in adaptation and disaster risk reduction (DRR), as well as gender equality issues and women's empowerment, the project has strengthened the community's capacity to monitor and assess risks.

In *Ancash*, the project has focused on responding to the impacts of climate change through early warning systems. These communities have experienced recurrent impacts of glacial lake outburst floods. *Carhuaz* has boosted community-level knowledge of climate change, and is working hard to reduce the risks posed by glacial retreat.

Advocacy and social mobilisation to address the underlying causes of vulnerability

The early warning system has also contributed to the institutional strengthening of local government and civil defence platforms by providing opportunities for training, technical knowledge and relationship-building. The multi-stakeholder co-design of risk management plans has integrated municipal actions within broader regional and national spaces.

The project has also sought to address the drivers of differential vulnerability, particularly from a gender perspective, confronting and transforming power relations, and encouraging balanced gender participation in planning committees.

The project hopes that improved monitoring of glacial retreat rates and applied modelling of debris flows, together with capacity-building activities, will improve the effectiveness of early warning systems and reduce risk in communities already affected by climate change.

Promotion of climate-resilient livelihoods strategies

Local farmers in the *Carhuaz* valley were consulted about how to reduce their vulnerability to the impacts of *climate variability* and climate change. One of the critical factors in managing risk in agricultural production relates to access to sustainable irrigation. This would help reduce seasonal losses due to extreme climate events, and in the face of glacial retreat would improve efficiency in the use of scarce water resources. In *Carhuaz*, the project has been developing a drip irrigation system, helping farmers to improve their productivity, reduce losses due to seasonal drought and, in the longer term, improve resilience to the impacts of climate change.



7. LESSONS LEARNED

A CARE staff member gets to grips with conservation agriculture techniques during an Adaptation Learning Programme for Africa (ALP) learning trip to Ghana.
© Agnes Otzelberger / CARE

Since 2009, when CARE first developed its *Community-Based Adaptation (CBA) framework*, significant progress has been made in terms of refining CARE's practice of CBA. The regional case studies and global learning shared in this paper have highlighted some of these developments in the approach. This section aims to consolidate lessons learned, in order to move forward in CARE's understanding of CBA and to inform the current process of updating our key climate change tools and resources for practitioners.

7.1 Good practice in CBA

The case studies demonstrate that there is no one single model of good practice for CBA projects. The climatic, environmental, social, economic, and political context surrounding a community determines the design, implementation and possible outcomes of CBA processes and activities.

However, looking across the examples shared in this paper, and our programme portfolio as a whole, some key lessons about what works well, across many different contexts, have emerged. NB: This paper does not include an exhaustive list of good practices, but highlights those most prominent in CARE's projects. Further documentation and assessment of CBA projects is required to fully identify and evaluate all such emerging good practices.

To summarise CARE's learning on good practice in CBA and some possible implications for practitioners involved in CBA, we have identified some key lessons learned (see following table).

Lessons learned	Implications
<p>1. Adaptive capacity</p> <p>Delivering on all four strategies, and all levels, of the <i>CBA framework</i> is crucial for building adaptive capacity effectively and sustainably.</p> <p>Adding the overarching components of ‘climate information’ and ‘managing risk and uncertainty’ helps to focus community/project decision-making around preparing for, and managing, future climate change risks, despite their uncertain nature.</p>	<p>Regardless of context, CBA projects must ensure that they are working on all four <i>CBA framework</i> strategies, at all levels, so that project outcomes are effective and last beyond the project lifetime. If one strategy is neglected, all other activities could be negatively affected.</p> <p>The use of climate information in guiding project/community decision-making is <i>the</i> critical distinguishing feature of adaptation work, as opposed to ‘sustainable development’ practice in general. Without regular and ongoing access to good-quality and locally relevant climate information, communities and other stakeholders are unable to adequately plan for, or respond to, the impacts of climate change.</p> <p>If communities and stakeholders are aware of the uncertain nature of predicting future climate risks, they can focus on building and maintaining flexible, proactive and responsive adaptation processes and activities.</p>
<p>2. Equitable approaches</p> <p>Participatory and rights-based approaches can help to ensure that adaptation outcomes are effective and sustainable.</p> <p>They also help to ensure that project activities do not exacerbate existing inequalities and vulnerabilities, and that they fulfil the needs of the most vulnerable groups.</p>	<p>Inequality in access to rights, resources and power lies at the root of poverty and vulnerability. Neither can be reduced effectively without taking action to understand and address these inequalities.</p> <p>By using gender, and other types of power and vulnerability, analyses in CBA projects we can help to ensure that adaptation outcomes are more effective and sustainable, and do not reinforce or exacerbate existing inequalities.</p> <p>Generating adaptation strategies together with communities and other local stakeholders improves the uptake and sustainability of the process because communities develop a strong sense of ownership and their specific priorities are met.</p> <p>As a minimum, project activities should promote the equal participation of men and women and, ideally, create lasting <i>transformative</i> change in gender relations as part of building the adaptive capacity of the whole community.</p>
<p>3. Working with partners</p> <p>External partners working with a community, for example providing resources and knowledge, are often a key factor in a successful CBA project.</p> <p>Working with existing civil society networks and platforms can facilitate the local to national-level advocacy requirements of CBA projects (usually around adaptation planning, financing or context-specific topics such as land rights for women or other marginalised groups).</p>	<p>The critical importance of sourcing and communicating good-quality and accessible climate information in adaptation projects relies on building relationships with external partners who hold this information. Facilitating participatory multi-stakeholder workshops, as promoted in the <i>Participatory Scenario Planning (PSP)</i> approach, can create mutual interest in sustaining a lasting relationship between communities and service/information providers.</p> <p>Similarly, private sector or local/national government partnerships can strengthen and increase the impact of CBA activities by providing services, and financial or political support, to influence the wider enabling environment. However, external partners may have their own interests and priorities. Partnerships can only succeed when these priorities overlap well with those of the communities.</p> <p>Rather than trying to create ‘CBA-specific’ advocacy networks or processes, identify existing civil society organisations whose priorities integrate well with those of the communities. Developing mutually beneficial relationships will help to strengthen the collective voice and increase the impact of the project’s advocacy efforts.</p>

4. Integration with formal planning processes

CBA is not something that communities do alone – it is a multi-level approach to adaptation that puts vulnerable people and their priorities first, but action is required at all levels (household, community, local and national).

Communities are able to integrate their context-specific adaptation plans into formal government plans and processes.

CBA projects can establish strong partnerships with local and national government agencies, which can provide support for communities' adaptation priorities, build local technical capacity, and include adaptation in development, budgeting, agricultural extension or disaster risk reduction (DRR) plans and processes.

Through embedding community-level adaptation priorities into existing plans, structures and institutional mechanisms, the impact of the project is expanded and strengthened. This formal recognition of CBA priorities can help ensure the sustainability of multi-level relationships and information channels beyond the lifetime of a project.

Principles A, D and E of the proposed *Joint Adaptation Principles* (outlined in section 3.3) directly promote CBA as a mechanism for generating and implementing equitable and pro-poor adaptation policies, activities and planning. CBA projects could use this framework to engage and influence national government bodies to better integrate CBA into national-level plans.

5. Building local capacity

The development, application, and sharing of effective participatory tools and approaches in CBA can help to build the capacity of local actors and promote the continuation of adaptation activities and processes after the lifetime of the project.

Facilitating relationship-building between targeted communities and various relevant stakeholders, in participatory and mutually beneficial training activities and capacity-building processes, helps to ensure the continuation of activities after the project ends.

All four of the above lessons learned demonstrate the critical role of working with multiple stakeholders at all levels to successfully build the adaptive capacity of communities and their wider national context.

Participatory and community-based tools, such as CARE's *Community Vulnerability and Capacity Assessment (CVCA)*, *Village Visioning* tool, *Participatory Scenario Planning (PSP)*, and the *Participatory Monitoring, Evaluation, Reflection & Learning (PMERL) manual*, also contribute to the process of capacity-building and promote the local ownership of adaptation planning.

7.2 Refining CARE's CBA approach

CARE's CBA tools and resources are in the process of being updated to reflect these emerging lessons on good practice. Our experiences in CBA have also revealed some issues that are missing from, or need to be better integrated into, our existing set of tools and resources. The main issues identified, and outlines of how we hope to address each issue, are summarised in the following table.

Issues	Next Steps
<p>Gender equality and women’s empowerment: Although it is relatively easy to engage women, in terms of CBA project participation, it is much more difficult to effect long-term and structural change in gender relations, and women’s empowerment outcomes at household, community or national levels.</p>	<p>Integrating CARE’s gender continuum (see figure 3) and Women’s Empowerment Framework (see section 2) approaches into CBA project design, to prioritise strategies that can effect lasting transformative change in gender relations as part of building the adaptive capacity of the whole community.</p>
<p>Climate information: While much progress has been made on integrating climate information into decision-making, many challenges remain in terms of access to, and usability of, such information for the poorest or most vulnerable groups, as well as around effective communication and the dissemination of information.</p>	<p>The Adaptation Learning Programme for Africa (ALP) has already highlighted the critical importance of climate information in adaptation, by adding it as an overarching element in the CBA Framework. Further research into ‘how best’ to simplify, communicate and share climate information is ongoing.</p>
<p>Ecosystem approaches: Rural communities directly depend upon natural resources, and on the products and services provided by healthy ecosystems. However, the focus of CARE’s existing adaptation tools and approaches is primarily around socio-economic analysis, with an assumption that natural resources will be adequately considered as part of this process.</p>	<p>CARE is a member of the Ecosystems and Livelihoods Adaptation Network (ELAN) that seeks to promote the integration of sound ecosystem management with socio-economic approaches to climate change adaptation. The network is working on a position paper to establish the foundation of such an integrated approach.</p>
<p>Financing CBA: The processes of building adaptive capacity and adaptation planning can be expensive. They require consistent government/partner support and necessarily need to effectively involve vulnerable and marginalised groups, which adds additional costs and challenges.</p>	<p>To research different financial mechanisms that could support adaptation planning and activities, from social protection schemes that act as a buffer during climate-related disasters to local savings and loans groups, and micro-insurance schemes, etc. Some of these mechanisms are already in use within other development projects but have not yet been evaluated in terms of managing climate-related risk.</p>
<p>CBA as a process: Since building adaptive capacity is a continuous process of understanding, planning for and responding to an uncertain changing climate, we need to better reflect this in our tools and resources.</p>	<p>To consolidate and link existing CARE tools to better reflect the process of building adaptive capacity. The ‘methodology for CBA planning’ outlined in the Vietnam case study (section 5.4), is just one example of how projects are already beginning to combine multiple tools within CBA processes.</p>
<p>Integration into general development practice: Practitioners have mentioned that climate change adaptation is often misunderstood as “yet another development sector”, and not seen as a critical risk affecting all development work.</p>	<p>To integrate climate change adaptation into CARE’s project cycle management approach to ensure that project design and decision-making processes are directly informed by climate information gathered during vulnerability analysis.</p>

For further information on any of the projects described in this paper, or if you would like to contribute to, or support CARE’s work on CBA, please visit: www.careclimatechange.org or email info@careclimatechange.org.

Appendix : Community-based adaptation (CBA) framework

	Climate-resilient livelihoods	Disaster risk reduction	Capacity development	Addressing underlying causes of vulnerability
National level	<ul style="list-style-type: none"> - Government is monitoring, analysing and disseminating current and future climate information related to livelihoods - Climate change is integrated into relevant sectoral policies - Climate change is integrated into poverty reduction strategy and/ or other development policies 	<ul style="list-style-type: none"> - Government is monitoring, analysing and disseminating disaster risk information - Government is engaged in planning and implementing disaster risk management (prevention, preparedness, response and recovery) - Functional early warning systems in place - Government has capacity to respond to disasters 	<ul style="list-style-type: none"> - Government has capacity to monitor, analyse and disseminate information on current and future climate risks - Government has mandate to integrate climate change into policies - National policies are rolled out at regional and local levels - Resources are allocated for implementation of adaptation-related policies 	<ul style="list-style-type: none"> - Government recognises specific vulnerability of women and marginalised groups to climate change - Policy and implementation is focused on reducing these vulnerabilities - Civil society is involved in planning and implementation of adaptation activities
Local government/ community level	<ul style="list-style-type: none"> - Local institutions³⁵ have access to climate information - Local plans or policies support climate-resilient livelihoods - Local government and NGO extension workers understand climate risks and are promoting adaptation strategies 	<ul style="list-style-type: none"> - Local institutions have access to disaster risk information - Local disaster risk management plans being implemented - Functional early warning systems in place - Local government has capacity to respond to disasters 	<ul style="list-style-type: none"> - Local institutions have capacity to monitor, analyse and disseminate information on current and future climate risks - Local institutions have capacity and resources to plan and implement adaptation activities 	<ul style="list-style-type: none"> - Local planning processes are participatory - Women and marginalised groups have a voice in local planning processes - Local policies provide access to and control over critical livelihoods resources for all
Household/ individual level	<ul style="list-style-type: none"> - People are generating and using climate information for planning - Households are employing climate-resilient agricultural practices - Households have diversified livelihoods, including non-agricultural strategies - People are managing risk by planning for and investing in the future 	<ul style="list-style-type: none"> - Households have protected reserves of food and agricultural inputs - Households have secure shelter - Key assets are protected - People have access to early warnings for climate hazards - People have mobility to escape danger in the event of climate hazards 	<ul style="list-style-type: none"> - Social and economic safety nets are available to households - Financial services are available to households - People have knowledge and skills to employ adaptation strategies - People have access to seasonal forecasts and other climate information 	<ul style="list-style-type: none"> - Men and women are working together to address challenges - Households have control over critical livelihoods resources - Women and marginalised groups have equal access to information, skills and services - Women and marginalised groups have equal rights and access to critical livelihoods resources

35. Note: Local institutions refers to both government and civil society organisations at local level.



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Founded in 1945, CARE is a leading humanitarian organisation fighting global poverty and providing lifesaving assistance in emergencies. In 84 countries around the world, CARE places special focus on working alongside poor girls and women because, equipped with the proper resources, they have the power to help lift whole families and entire communities out of poverty. To learn more, visit www.careinternational.org.